No 46 | Summer 2010

Health Statistics Quarterly

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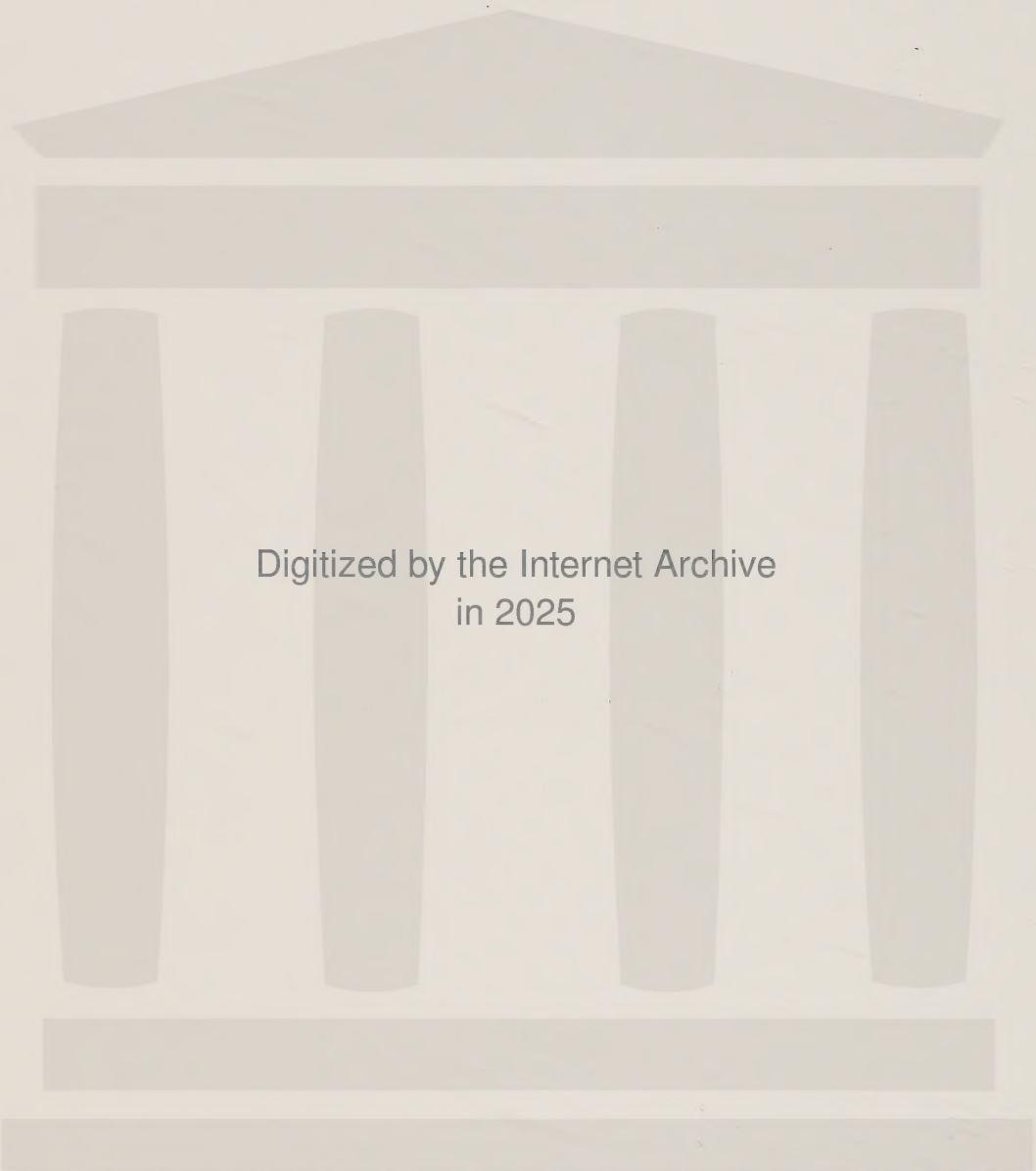

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In brief

Forty years of Social Trends

This year's edition of ONS's flagship annual compendium *Social Trends* will be published on the 2nd July 2010 with a theme of 'Forty years of social trends in the UK'. It will include a chapter on health, which will cover a range of topics, including:

- Key health indicators such as life expectancy and completed primary immunisation courses.
- The mortality rates of major cancers and the five-year relative survival for the most common cancers.
- Smoking, drinking and drugs, focusing on adults' cigarette smoking habits and deaths related to alcohol and drug misuse.
- Health-related behaviour, which includes adults' body mass index and self-reported longstanding illness.
- Mental health, including prevalence of common mental disorders, and suicide rates.
- Sexual health, detailing the current use of contraception and new diagnoses of selected sexually transmitted infections.

This chapter, together with the other twelve chapters, will be published on the ONS website to form the 40th edition of Social Trends. This edition will also be available as a printed publication from Palgrave Macmillan, and is the final printed edition of Social Trends. All future editions will be published online only, with several chapters being updated each quarter, plus an annual Social Trends 'wrap up' article. Further Information can be found at www.statistics.gov.uk/socialtrends or email: social.trends@ons.gsi.gov.uk

Population Trends - Longitudinal Study themed edition

The March 2010 edition of *Population Trends* was an 'LS-themed' edition with a number of articles based on research using the ONS Longitudinal Study (LS). The lead article looked at the relationship between self-rated health from the 2001 Census and subsequent rates of mortality. This was the result of an exemplar project looking at drawing together data from the three separate longitudinal studies (ONS LS, Scottish LS and Northern Ireland LS) to give a UK view. Further information can be found at www.statistics.gov.uk/populationtrends/ptissue or contact: Jim Newman, 01329 444696 or email: jim.newman@ons.gsi.gov.uk

Healthcare productivity - General Practice Services

On 30 March, ONS released *Measuring Growth in the Volume of Input for General Practice Services.* This paper discusses alternative measures of the volume of general practice input. This is a component of the volume of healthcare input, measured by ONS in order to produce estimates of public service healthcare productivity.

The current approach regards general practices as an integral part of the NHS and so derives input volume growth from the growth of the labour, capital and intermediate consumption of the practices. The alternative approach considers practice input as part of the intermediate consumption of the NHS and thus derives this part of input volume growth from the growth of the items procured under contract. In the period 2005–07 the alternative method would reduce overall public service healthcare input growth by an average of 0.1 percentage points per year. The paper recommends moving to the alternative method for future healthcare input volume estimates.

There will now follow a period of consultation where stakeholders are invited to express their views on this recommendation. More information can be found at http://www.statistics.gov.uk/cci/article.asp?id=2398 or contact: Mark Chandler, 01633 456366 or email: mark.s.chandler@ons.gsi.gov.uk

English Longitudinal Study of Ageing - Wave 4 launch

Recent findings from the fourth wave of English Longitudinal Study of Ageing (ELSA) will be showcased at a launch on 23 July 2010. ELSA, a longitudinal panel survey which received substantial support from ONS and other government departments, provides a data resource on health, economic position and quality of life as people age. The launch will consist of a series of presentations highlighting major findings from the new wave of data collection, together with contributions about planned developments and collaborations with allied studies in other countries.

The study covers people who were aged 50 and over in 2008/9, and the findings will include analysis of:

- Employment patterns and expectation of future working in older people
- Quality of sleep and its relationship with social participation and health
- Changes in social care and support as people age
- How health and social circumstances vary by wealth
- Socio-demographic characteristics and wellbeing of the oldest people
- Trends in physical disability, limiting illness and perceived health
- Health protective biological measures in ELSA
- Trends in income and wealth in older people

DATE: Friday 23 July 2010, 9.30am–4.00pm

LOCATION: British Academy, 10 Carlton House Terrace, London, SW1Y 5AH.

For more information or to register attendance, please contact: Sheema Ahmed, ELSA administrator on 020 7679 1656 or email: sheema.ahmed@ucl.ac.uk

Obituary- Eileen Goddard

It is with sadness that we report the death of Eileen Goddard, who recently retired from ONS. Eileen had a long career in survey research and had been involved with the General Household Survey from its earliest days. Many users of health statistics will be aware of her work in the areas of smoking, drinking and drug use research, where she was an acknowledged specialist in survey design and analysis on these topics. She will be sadly missed on a professional and personal level by all her colleagues and friends.

Survival from twenty adult cancers in the UK and Republic of Ireland in the late twentieth century

Laura M Woods[1]*, Bernard Rachet[1], Lorraine Shack[2], Denise Catney[3], Paul M Walsh[4], Nicola Cooper[5], Ceri White[6], Vivian Mak[7], John Steward[6], Harry Comber[4], Anna Gavin[3], David Brewster[2], Mike Quinn[5], Michel P Coleman[1] and the UK Association of Cancer Registries

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Abstract

Background

International studies have shown that cancer survival was generally low in the UK and the Republic of Ireland compared to western and northern European countries, but no systematic comparative analysis has been performed between the UK countries and the Republic of Ireland.

Methods

Population-based survival for 20 adult malignancies was estimated for the UK and the Republic of Ireland. Data on adults (15–99 years) diagnosed between 1991 and 1999 in England, Scotland, Wales, Northern Ireland (1993–99) and the Republic of Ireland (1994–99) were analysed. All cases were followed up until the end of 2001. Relative survival was estimated by sex, period of diagnosis and country, and for the nine regions of England. Predicted survival was estimated using the hybrid approach.

Results

Overall, cancer survival in UK and Republic of Ireland improved during the 1990s, but there was geographic variation in survival across the UK and Republic of Ireland. Survival was generally highest in Ireland and Northern Ireland and lowest in England and Wales. Survival tended to be higher in Scotland for cancers for which early detection methods were in place. In England, survival tended to be lower in the north and higher in the south.

Conclusions

The geographic variations in survival seen across the UK and Republic of Ireland are narrower than between these countries and comparable European countries. Artefact is likely to explain some, but not all of the differences across the UK and Republic of Ireland. Geographic differences in stage at diagnosis, co-morbidity and other clinical factors may also be relevant.

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Introduction

Population-based cancer survival data are available for patients diagnosed since 1971 for England and Wales (Coleman *et al.* 1999;Coleman *et al.* 2004) and for Scotland (Scottish Cancer Intelligence Unit 2000), but only since 1993 for Northern Ireland (Northern Ireland Cancer Registry 2007) and 1994 for the Republic of Ireland (Comber & Walsh 2008) It is not possible to evaluate geographical differences in cancer survival in the UK and the Republic of Ireland directly from these data, because of methodological differences between the various analyses. Survival estimates for the UK have not routinely been produced. Substantial regional variation in cancer survival has been demonstrated in England (Coleman *et al.* 1999) but this variation has not been directly compared with differences between the four countries of the UK or with the Republic of Ireland.

Here we examine cancer survival in the Republic of Ireland and the UK, for each of the four UK nations separately, and for all five countries combined. We also examine variation in survival between the nine Government Office Regions of England.

Methods and data

All persons diagnosed with one of the 20 most common cancers during the period 1991–99 in England, Scotland, Wales, 1993–99 in Northern Ireland and 1994–99 in the Republic of Ireland were eligible for inclusion. Anonymised individual records were obtained from the national cancer registries of each country. We analysed the survival of more than 1.7 million patients aged 15–99 years, 86 per cent of those were eligible for inclusion (Table 1). Follow-up was complete to 31 December 2001. Nine per cent of patients were excluded because their recorded survival time was zero, mainly patients registered from a death certificate only (DCO), whose survival time was unknown. The proportion was greater in England and Wales than in Scotland, Northern Ireland and the Republic of Ireland. A further five per cent of patients were excluded because it was not their first cancer, or for other reasons, including unknown vital status. Non-melanoma skin cancers were not considered because their registration was too patchy in the UK during the study period.

Table 1

Exclusions (% of eligible patients) and number and percentage of all eligible cases included in the survival analyses: cancer patients diagnosed during 1991–99[a] in the United Kingdom and the Republic of Ireland

	England				Scotland			
	Exclusions (% of eligible)		Eligible cases analysed		Exclusions (% of eligible)		Eligible cases analysed	
Malignancy	Zero survival[b]	Other[c]	No.	%	Zero survival[b]	Other[c]	No.	%
Oesophagus	9.5	4.9	42,464	85.6	3.1	7.5	6,113	89.5
Stomach	12.4	4.5	65,108	83.2	4.8	6.5	8,085	88.7
Colon	10.2	5.6	132,514	84.2	3.7	7.9	17,266	88.4
Rectum	5.8	5.2	79,828	89.0	2.2	7.2	9,307	90.6
Pancreas	21.4	4.0	38,587	74.6	9.3	6.4	4,630	84.3
Larynx (M)	4.0	22.3	12,290	73.7	1.4	8.1	1,963	90.5
Lung	14.9	4.8	236,500	80.3	6.4	7.2	36,885	86.5
Melanoma of skin	2.1	5.1	38,535	92.8	0.2	7.1	4,974	92.7
Breast (F)	5.2	5.9	252,467	88.8	2.2	6.5	27,053	91.4
Cervix	3.6	6.1	23,736	90.3	0.8	7.6	3,103	91.6
Uterus	5.0	7.8	33,297	87.2	2.3	10.1	3,388	87.6
Ovary	9.3	5.3	40,683	85.4	2.5	7.6	4,903	89.9
Prostate	7.6	4.7	145,946	87.7	3.1	6.5	14,691	90.5
Testis	0.8	2.8	12,460	96.4	0.2	1.6	1,569	98.2
Bladder	5.0	6.4	87,431	88.7	1.3	9.5	9,886	89.2
Kidney	11.2	6.8	33,386	82.0	5.3	10.2	4,365	84.5
Brain	9.1	3.7	24,506	87.2	3.6	3.9	2,702	92.5
Non-Hodgkin lymphoma	8.3	5.0	54,046	86.7	3.0	7.0	6,313	90.0
Multiple myeloma	11.5	4.5	21,553	84.1	3.7	7.1	2,407	89.2
All leukaemias	14.6	5.9	37,865	79.5	5.0	7.9	4,501	87.1
Total	**9.3**	**5.5**	**1,413,202**	**85.2**	**3.8**	**7.3**	**174,104**	**89.0**

Table 1 continued

	Wales				Northern Ireland[a]			
	Exclusions (% of eligible)		Eligible cases analysed		Exclusions (% of eligible)		Eligible cases analysed	
Malignancy	Zero survival[b]	Other[c]	No.	%	Zero survival[b]	Other[c]	No.	%
Oesophagus	10.9	4.2	2,927	85.0	3.7	3.9	993	92.4
Stomach	15.2	3.7	5,236	81.0	4.6	3.0	1,696	92.4
Colon	12.6	3.5	9,393	84.0	4.3	2.7	4,064	93.0
Rectum	6.5	3.3	5,885	90.2	1.2	3.8	2,056	95.0
Pancreas	21.1	3.7	2,670	75.2	6.8	3.0	925	90.2
Larynx (M)	4.4	24.9	888	70.7	0.4	6.1	361	93.5
Lung	18.4	5.8	15,026	75.8	5.0	2.8	5,755	92.2
Melanoma of skin	3.9	6.5	2,081	89.5	0.2	2.4	1,193	97.5
Breast (F)	5.6	4.7	17,348	89.7	1.5	1.0	5,866	97.5
Cervix	4.8	7.7	1,630	87.5	1.4	1.7	564	96.9
Uterus	7.2	5.7	2,457	87.1	3.7	4.4	767	91.9
Ovary	8.0	6.1	2,920	85.9	2.1	5.5	1,090	92.4
Prostate	7.7	4.1	9,825	88.3	2.9	2.6	3,175	94.6
Testis	1.4	3.0	735	95.6	0.3	0.9	342	98.8
Bladder	4.0	6.5	6,654	89.4	1.6	6.6	1,357	91.8
Kidney	11.3	6.2	2,395	82.5	2.8	6.1	1,013	91.1
Brain	9.3	5.0	1,808	85.8	2.3	1.4	633	96.3
Non-Hodgkin lymphoma	7.7	6.8	3,389	85.5	2.9	3.2	1,567	93.9
Multiple myeloma	11.3	5.6	1,422	83.1	2.9	3.2	625	94.0
All leukaemias	10.5	6.4	3,157	83.1	3.7	2.0	935	94.3
Total	**10.3**	**5.2**	**97,846**	**84.5**	**3.1**	**2.9**	**34,977**	**94.0**

Table 1 continued

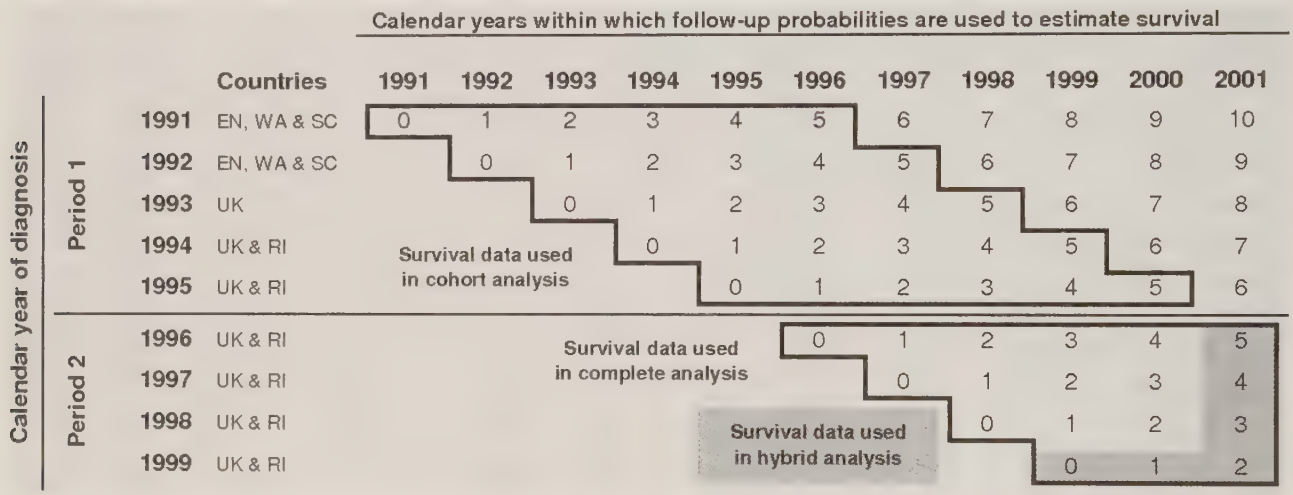
Malignancy	Republic of Ireland[a]				UK and Republic of Ireland[a]			
	Exclusions (% of eligible)		Eligible cases analysed		Exclusions (% of eligible)		Eligible cases analysed	
	Zero survival[b]	Other[c]	No.	%	Zero survival[b]	Other[c]	No.	%
Oesophagus	3.9	1.8	1,696	94.3	8.6	5.0	54,193	86.4
Stomach	5.6	2.2	2,693	92.1	11.5	4.5	82,818	84.0
Colon	4.7	2.7	6,290	92.6	9.4	5.5	169,527	85.1
Rectum	1.9	3.2	3,750	94.9	5.3	5.2	100,826	89.5
Pancreas	8.3	2.1	1,837	89.6	19.7	4.1	48,649	76.2
Larynx (M)	2.5	1.5	531	96.0	3.7	20.1	16,033	76.2
Lung	6.5	1.8	8,587	91.7	13.7	5.0	302,753	81.2
Melanoma of skin	0.1	2.7	2,232	97.3	1.8	5.2	49,015	93.0
Breast (F)	1.8	1.2	9,599	97.1	4.8	5.7	312,333	89.5
Cervix	2.0	1.5	1,024	96.5	3.3	6.1	30,057	90.6
Uterus	2.6	3.0	1,319	94.4	4.8	7.6	41,228	87.5
Ovary	3.5	3.7	1,823	92.8	8.3	5.5	51,419	86.2
Prostate	3.3	2.2	7,050	94.5	7.0	4.7	180,687	88.3
Testis	0.5	0.0	548	99.5	0.7	2.5	15,654	96.7
Bladder	2.1	4.0	2,628	93.9	4.5	6.6	107,956	88.9
Kidney	5.8	4.5	1,481	89.7	10.2	7.0	42,640	82.8
Brain	4.6	1.0	1,302	94.3	8.4	3.6	30,951	88.0
Non-Hodgkin lymphoma	2.9	1.7	2,278	95.4	7.5	5.1	67,593	87.4
Multiple myeloma	4.5	2.1	1,016	93.4	10.4	4.6	27,023	85.0
All leukaemias	3.8	2.4	1,841	93.8	13.0	5.9	48,299	81.1
Total	**3.8**	**2.2**	**59,525**	**94.0**	**8.6**	**5.5**	**1,779,654**	**86.0**

[a] Incident cases in Northern Ireland were diagnosed 1993-99, and in the Republic of Ireland 1994-99.
[b] Date of diagnosis same as date of death: some patients did die on the day of diagnosis, but most were registered solely from a death certificate, with unknown survival time.
[c] Aged 100 years or over at diagnosis, vital status or sex unknown, sex-site error, invalid dates, duplicate registration, synchronous tumour or persons who had a previous primary malignancy.

We examined relative survival from cancer. Relative survival is one method of estimating net survival, which is the probability of survival related directly to the disease rather than the overall observed (crude) survival of the patient group. Relative survival is estimated by comparing the observed survival with the survival that would have been expected if the patients had only experienced the expected (or background) mortality by age and sex as that seen in the general population in the same country or region and calendar year. The expected mortality is given by general population life tables of all-cause mortality by the same variables. Relative survival is the most defensible method of estimating net survival in population-based studies, because it does not rely upon accurate reporting of cause of death (Ederer, Axtell, & Cutler 1961).

We used the maximum-likelihood approach for individual records (Estève *et al.* 1990) as implemented in the publicly available STATA algorithm *strel* to estimate the excess hazard of death from cancer for given time intervals after diagnosis. For any given cancer and a given sex, we used a constant interval structure to divide the follow-up time, but varied the number of intervals from 4 to 14 for different cancers according to the number of cases and the observed pattern of mortality. Cumulative relative survival up to five years after diagnosis was estimated by age group and country, using either the cohort or complete approach, for patients diagnosed during 1991–95 and 1996–99. We applied the hybrid approach (Brenner & Rachet 2004) to predict relative survival in the near future, using data for patients who were alive and under follow-up at some point during the period 2000–01 (Figure 1). The mean annual absolute percentage change in relative survival between 1991–95 and 1996–99 was estimated with variance-weighted least squares regression, taking into account the slightly shorter periods of incidence available for Northern Ireland (1993–95) and the Republic of Ireland (1994–95).

Figure 1 Structure of data used for survival analyses


Calendar years within which follow-up probabilities are used to estimate survival
Countries
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001
Calendar year of diagnosis
Period 1
1991 EN, WA & SC 0 1 2 3 4 5 6 7 8 9 10
1992 EN, WA & SC 0 1 2 3 4 5 6 7 8 9
1993 UK 0 1 2 3 4 5 6 7 8
1994 UK & RI 0 1 2 3 4 5 6 7
1995 UK & RI 0 1 2 3 4 5 6
Survival data used in cohort analysis
Period 2
1996 UK & RI 0 1 2 3 4 5
1997 UK & RI 0 1 2 3 4
1998 UK & RI 0 1 2 3
1999 UK & RI 0 1 2
Survival data used in complete analysis
Survival data used in hybrid analysis

Numeric values indicate the minimum number of completed years of follow-up attained for an individual diagnosed during the index year (rows) who was followed up to the end of a given calendar year (columns).

UK – United Kingdom, SC – Scotland, WA – Wales, RI – Republic of Ireland

National or regional life tables were used to estimate expected survival. For the national analyses, the Government Actuary's Department (GAD) interim life tables centred on 1991 and 1996 were used for each country in the UK (Government Actuary's Department 2004). For the Republic of Ireland, census-derived life tables centred on these same two years were used (Central Statistics Office 1995, 2004). Background mortality for patients dying during the period 1991–95 was represented by the 1991 life tables, whilst the 1996 tables were used for patients dying during the period 1996–01. Regional analyses for England were conducted using 1991 and 1998-centred region-specific life tables, described elsewhere (Coleman *et al.* 1999; Coleman *et al.* 2004). The "observed" background mortality rates are unstable and usually not available for every year of age for elderly. All life tables were therefore smoothed and extended up to 100 years of age with the

Ewbank et al. four-parameter life table system (Ewbank et al. 1983) constrained to three independent parameters.

To improve the comparability of the results, an attempt was made to age-standardise the survival estimates directly with age weights derived from the numbers of patients diagnosed with each cancer in England and Wales during the period 1986–90 (Coleman *et al.* 1999). Three broad age groups were used: under 50, 50–69 and 70 or more years at diagnosis. Finer age groups could not be applied because of the small numbers of cases and deaths in the data sets for the Republic of Ireland, Northern Ireland and Wales, and in some of the English regions. Even so, it was often impossible to produce an age-standardised estimate. Age-standardised and non-standardised estimates were very similar when both were available (data available on request), and only non-standardised rates are presented here.

We used funnel plots to examine geographic variation in one-year survival between the English regions and the other four countries (Spiegelhalter 2005). One-year survival was used because an estimate was available for every country for every malignancy. For each region or country, the estimate of one-year survival is plotted against the precision of the estimate, taken as the inverse square of its standard error. The horizontal line in each plot, the target value, is the pooled estimate of one-year survival in the UK and the Republic of Ireland combined. The 95 per cent and 99.8 per cent control limits superimposed on each plot represent approximately two and three standard deviations, respectively, from the target value at each level of precision. Survival estimates that lie within the control limits may be considered as within the geographical variation that could be expected by chance. Funnel plots may be preferable to conventionally ranked bar charts for visual comparison of a set of estimates with widely different precision.

Results

Relative survival from the twenty most common cancers generally increased between the early and late 1990s, both in the constituent countries of the UK and in the Republic of Ireland. Cancer survival, and improvements in survival, varied between the five countries (Table 2, Figures 2 and 3). Details of the numbers of patients included in the analyses, the numbers of deaths and estimates of survival at one and five years for each cancer and each calendar period are available online as Supplementary Tables 1 and 2. Survival also varied between the regions of England (Supplementary Figure 1, Supplementary Tables 3, 4 and 5).

Table 2 Five-year relative survival (%), with 95% confidence interval (CI), for patients diagnosed 1996–99, mean annual change (%)[a], between 1996–99 and 1991–95 and predictions of five-year survival for patients diagnosed 2000–01 (with 95% CI), by country, sex and site: UK and Republic of Ireland

		England						Scotland					
Malignancy	Sex	1996–99 complete		Annual % change[a]		2000–2001 hybrid		1996–99 complete		Annual % change[a]		2000–2001 hybrid	
		RS	*(CI)*			*RS*	*(CI)*	*RS*	*(CI)*			*RS*	*(CI)*
Oesophagus	M	8	(7;9)	0.3	*	8	(8;9)	10	(9;12)	0.6	*	10	(8;13)
	F	7	(7;8)	<–0.1		8	(7;9)	9	(7;12)	0.2		9	(7;12)
Stomach	M	14	(13;14)	0.5	*	14	(13;15)	14	(12;16)	0.5		13	(11;16)
	F	14	(14;15)	0.5	*	15	(14;16)	15	(13;17)	0.4		16	(13;19)
Colon	M	49	(48;50)	1.2	*	50	(49;51)	50	(47;52)	0.6		51	(48;54)
	F	48	(47;49)	1.1	*	49	(48;50)	51	(49;53)	0.9	*	53	(50;55)
Rectum	M	51	(50;52)	1.9	*	53	(51;54)	51	(48;54)	1.6	*	54	(50;58)
	F	51	(50;53)	1.5	*	52	(51;53)	53	(50;56)	1.4	*	54	(49;58)
Pancreas	M	3	(3;3)	0.1	*	3	(3;4)	3	(2;4)	<–0.1		3	(2;6)
	F	2	(2;3)	<–0.1		2	(2;3)	3	(2;4)	–0.2		4	(2;6)
Larynx	M	67	(65;68)	0.5		67	(64;69)	65	(60;69)	0.4		64	(58;70)
Lung	M	6	(6;7)	0.2	*	7	(6;7)	7	(7;8)	<–0.1		8	(7;9)
	F	7	(7;7)	0.3	*	7	(7;8)	8	(7;9)	0.4	*	9	(8;10)
Melanoma of skin	M	80	(79;82)	1.0	*	81	(79;83)	85	(81;88)	0.8		86	(81;90)
	F	91	(90;91)	0.5	*	91	(90;92)	96	(93;97)	0.8	*	96	(93;98)
Breast	F	81	(80;81)	1.0	*	82	(81;82)	80	(79;81)	0.8	*	81	(80;83)
Cervix	F	67	(66;68)	0.2		68	(66;69)	69	(66;72)	1.0	*	71	(66;75)
Uterus	F	77	(76;78)	0.8	*	78	(77;79)	79	(76;82)	0.9	*	80	(76;83)
Ovary	F	39	(38;40)	1.6	*	40	(38;41)	41	(39;44)	1.8	*	42	(39;46)
Prostate	M	73	(73;74)	3.2	*	75	(74;75)	72	(70;74)	2.6	*	74	(72;77)
Testis	M	96	(95;97)	0.3	*	96	(96;97)	98	(96;99)	0.7	*	98	(94;99)
Bladder	M	69	(68;70)	0.2		69	(67;70)	68	(65;71)	–1.2	*	62	(58;66)
	F	57	(55;58)	–0.5	*	57	(55;59)	55	(51;58)	–1.7	*	48	(43;53)
Bladder includ. non-malignant	M	70	(69;71)	0.3	*	70	(69;71)	66	(63;68)	–1.6	*	59	(56;63)
	F	58	(57;60)	–0.4	*	59	(57;61)	54	(50;58)	–1.8	*	47	(42;52)
Kidney	M	48	(46;49)	0.8	*	49	(47;50)	44	(40;48)	0.4		47	(42;52)
	F	46	(45;48)	1.2	*	47	(45;49)	48	(43;52)	1.6	*	50	(44;55)
Brain	M	13	(12;14)	–0.2		12	(11;13)	16	(13;20)	0.1		13	(10;17)
	F	14	(13;15)	–0.1		14	(12;15)	16	(12;19)	–0.5		12	(9;17)
Non-Hodgkin lymphoma	M	54	(52;55)	1.1	*	55	(53;56)	56	(53;59)	1.9	*	57	(53;62)
	F	54	(53;56)	0.9	*	55	(54;57)	54	(50;57)	1.3	*	56	(51;60)
Multiple myeloma	M	30	(28;31)	1.4	*	30	(28;32)	25	(19;32)	<–0.1		26	(19;34)
	F	27	(26:29)	1.3	*	28	(26;30)	31	(25;37)	1.3		28	(22;35)
All leukaemias	M	45	(44;46)	1.1	*	45	(43;47)	51	(47;55)	1.9	*	53	(48;58)
	F	41	(40;43)	0.6	*	41	(39;43)	43	(39;48)	–0.1		43	(37;48)

Table 2 continued

Malignancy	Sex	Wales						Northern Ireland					
		1996–99 complete		Annual % change[a]		2000–2001 hybrid		1996–99 complete		Annual % change[a]		2000–2001 hybrid	
		RS	*(CI)*			*RS*	*(CI)*	*RS*	*(CI)*			*RS*	*(CI)*
Oesophagus	M	10	(8;13)	0.8	*	11	(8;15)	12	(7;17)	1.5		12	(7;18)
	F												
Stomach	M	12	(10;15)	0.5		12	(10;15)	17	(13;21)	0.6		16	(12;21)
	F	13	(10;17)	0.4		14	(11;19)						
Colon	M	49	(46;51)	1.2	*	48	(45;52)	56	(51;60)	2.6	*	55	(50;60)
	F	46	(43;48)	1.3	*	47	(43;50)	54	(51;58)	2.3	*	54	(49;58)
Rectum	M	45	(42;49)	1.0	*	45	(41;49)	51	(45;57)	1.2		52	(45;59)
	F	49	(44;53)	1.5	*	49	(44;54)	49	(43;56)	1.3		49	(41;56)
Pancreas	M	3	(2;6)	–0.1		3	(2;6)	3	(1;6)	<–0.1		2	(1;7)
	F							3	(1;6)			3	(1;8)
Larynx	M	61	(53;67)	–0.7		61	(51;69)						
Lung	M	6	(5;8)	0.2		7	(6;9)	10	(8;12)	0.8	*	11	(9;14)
	F	6	(5;8)	0.2		7	(5;9)						
Melanoma of skin	M	67	(60;73)	–0.7		68	(60;75)	89	(80;94)	0.2		86	(75;92)
	F	84	(79;89)	0.6		83	(77;88)	96	(89;98)	0.7		94	(86;97)
Breast	F	78	(76;79)	0.6	*	78	(77;80)	80	(78;82)	1.1	*	82	(79;84)
Cervix	F	55	(51;60)	–0.9		56	(50;61)	71	(64;76)	2.5		72	(63;79)
Uterus	F	74	(70;77)	<–0.1		73	(68;77)	76	(69;81)	1.6		77	(68;83)
Ovary	F	35	(32;38)	1.2	*	35	(31;38)						
Prostate	M	64	(61;66)	2.2	*	66	(63;69)	60	(55;63)	0.7		63	(58;68)
Testis	M	96	(92;98)	1.7	*	97	(91;99)	95	(88;98)	0.8		96	(87;99)
Bladder	M	73	(70;76)	0.5		75	(70;78)	67	(60;73)	2.0		66	(57;73)
	F	65	(61;70)	1.7	*	66	(60;71)	52	(43;60)	4.1	*	44	(34;55)
Bladder includ. non-malignant	M	75	(71;77)	0.4		76	(72;79)	79	(74;83)	0.9		77	(70;82)
	F	69	(65;73)	1.9	*	68	(63;73)	68	(61;74)	2.3		63	(54;71)
Kidney	M	47	(42;52)	0.7		50	(43;56)	55	(48;62)	1.2		56	(46;65)
	F	46	(40;52)	1.6		48	(40;55)	49	(40;56)	–1.3		48	(37;58)
Brain	M	11	(8;15)	–0.7		13	(9;19)						
	F							18	(10;27)	–1.3		19	(10;31)
Non-Hodgkin lymphoma	M	46	(41;50)	<–0.1		50	(44;56)						
	F	48	(43;52)	–0.3		49	(43;55)	48	(42;55)	–0.7		51	(43;59)
Multiple myeloma	M	23	(16;31)	–1.1		26	(17;35)	26	(18;35)	0.6		30	(19;42)
	F	24	(17;32)	0.6		24	(16;34)						
All leukaemias	M	40	(36;45)	1.0		42	(36;48)	26	(19;34)	–1.6		26	(17;35)
	F	38	(32;43)	–0.4		39	(33;45)	31	(23;39)	–2.0		29	(20;39)

Table 2 continued

Malignancy	Sex	United Kingdom						Republic of Ireland						UK and R Ireland					
		1996–99 complete		Annual % change[b]		2000–2001 hybrid		1996–99 complete		Annual % change[a]		2000–2001 hybrid		1996–99 complete		Annual % change[b]		2000–2001 hybrid	
		RS	*(CI)*			*RS*	*(CI)*	*RS*	*(CI)*			*RS*	*(CI)*	*RS*	*(CI)*			*RS*	*(CI)*
Oesophagus	M	8	(8;9)	0.4	*	9	(8;10)	11	(8;14)	0.2		11	(7;15)	8	(8;9)	0.4	*	9	(8;10)
	F	8	(7;9)	<–0.1		8	(7;9)	13	(9;17)			13	(8;19)	8	(7;9)	<–0.1		8	(8;9)
Stomach	M	14	(13;14)	0.5	*	14	(13;15)							14	(13;14)	0.6	*	14	(13;15)
	F	15	(14;15)	0.5	*	15	(14;16)	19	(15;23)	0.5		18	(13;23)	15	(14;16)	0.6	*	15	(14;16)
Colon	M	49	(48;50)	1.1	*	50	(49;51)	51	(48;54)	1.3		51	(47;54)	49	(49;50)	1.1	*	50	(50;51)
	F	48	(48;49)	1.1	*	50	(49;50)	53	(51;56)	1.7	*	56	(52;59)	49	(48;49)	1.1	*	50	(49;51)
Rectum	M	51	(50;51)	1.8	*	52	(51;53)	48	(45;52)	2.5	*	51	(47;55)	50	(50;51)	1.8	*	52	(51;53)
	F	51	(50;52)	1.5	*	52	(51;53)	50	(45;54)	–1.0		53	(47;58)	51	(50;52)	1.4	*	52	(51;53)
Pancreas	M	3	(3;3)	0.1		3	(3;4)	4	(3;7)	0.1		5	(3;8)	3	(3;3)	0.1		3	(3;4)
	F	2	(2;3)	<–0.1		2	(2;3)	6	(4;8)	–0.1		7	(4;10)	3	(2;3)	<–0.1		3	(2;3)
Larynx	M	66	(64;68)	0.4		66	(64;68)	67	(59;73)	2.5		64	(54;71)	66	(64;68)	0.5	*	66	(64;68)
Lung	M	7	(6;7)	0.2	*	7	(6;7)	8	(7;9)	–0.3		8	(7;10)	7	(6;7)	0.2	*	7	(7;7)
	F	7	(7;7)	0.3	*	7	(7;8)	9	(8;11)	–0.4		10	(8;12)	7	(7;8)	0.3	*	8	(7;8)
Melanoma of skin	M	81	(79;82)	0.9	*	81	(80;83)	73	(67;78)	–0.8		73	(66;79)	80	(79;81)	0.8	*	81	(79;82)
	F	91	(90;92)	0.6	*	91	(90;92)	90	(86;93)	0.7		91	(87;94)	91	(90;92)	0.6	*	91	(90;92)
Breast	F	80	(80;81)	1.0	*	81	(81;82)	77	(75;78)	1.4	*	78	(76;80)	80	(80;81)	1.0	*	81	(81;82)
Cervix	F	67	(66;68)	0.3		67	(66;69)	68	(63;72)	2.6	*	71	(65;76)	67	(66;68)	0.3	*	68	(66;69)
Uterus	F	77	(76;78)	0.7	*	78	(76;79)	80	(77;84)	2.9	*	80	(75;84)	77	(76;78)	0.8	*	78	(77;79)
Ovary	F	39	(38;40)	1.6	*	40	(39;41)	41	(38;45)	–0.6		43	(38;47)	39	(38;40)	1.5	*	40	(39;41)
Prostate	M	72	(72;73)	3.0	*	74	(73;75)	73	(70;75)	3.8	*	77	(74;79)	72	(72;73)	3.0	*	74	(73;75)
Testis	M	96	(96;97)	0.5	*	97	(96;97)							96	(95;97)	0.4	*	96	(96;97)
Bladder	M	69	(68;70)	0.1		69	(68;70)	74	(69;78)	<–0.1		75	(69;80)	69	(68;70)	0.1		69	(68;70)
	F	57	(56;58)	–0.4	*	57	(55;58)	69	(63;74)	0.7		69	(61;76)	58	(56;59)	–0.4	*	57	(56;59)
Bladder includ. non-malignant	M	70	(70;71)	0.2		70	(69;71)	75	(71;79)	0.3		78	(72;82)	71	(70;71)	0.2		70	(69;71)
	F	59	(58;60)	–0.3		59	(58;61)	70	(64;75)	0.8		71	(63;78)	60	(59;61)	–0.2		60	(58;61)
Kidney	M	48	(46;49)	0.8	*	49	(47;50)	49	(43;54)	–0.9		48	(42;55)	48	(46;49)	0.8	*	49	(47;50)
	F	47	(45;48)	1.2	*	47	(46;49)	53	(46;59)	–0.2		53	(44;61)	47	(45;48)	1.2	*	48	(46;49)
Brain	M	13	(12;14)	–0.2		13	(12;14)	21	(17;25)	1.1		21	(16;26)	13	(13;14)	–0.1		13	(12;14)
	F	15	(14;16)	–0.1		14	(13;16)	20	(16;25)			20	(14;27)	15	(14;16)	<–0.1		15	(13;16)
Non-Hodgkin lymphoma	M	53	(52;54)	1.1	*	55	(53;56)	52	(48;56)	1.2		54	(49;60)	53	(52;54)	1.1	*	55	(53;56)
	F	54	(53;55)	0.8	*	55	(54;56)	57	(53;62)	0.5		58	(52;64)	54	(53;55)	0.8	*	55	(54;56)
Multiple myeloma	M	29	(27;31)	1.2	*	30	(28;32)	26	(20;32)	1.8		24	(17;31)	29	(27;30)	1.2	*	29	(27;31)
	F	28	(26;29)	1.2	*	28	(26;30)	26	(20;34)	0.3		23	(16;31)	28	(26;29)	1.2	*	28	(26;30)
All leukaemias	M	45	(44;46)	1.1	*	45	(43;47)	44	(38;49)	0.5		43	(36;49)	45	(43;46)	1.1	*	45	(43;46)
	F	41	(40;42)	0.4	*	41	(39;43)	49	(43;54)	0.6		47	(40;54)	41	(40;43)	0.5	*	41	(40;43)

[a] Annual absolute percentage change calculated by dividing the absolute difference in survival between 1991–95 and 1996–99 by the number of years between the mid-point of each calendar period. Figures take into account the slightly shorter periods of diagnosis available for Northern Ireland (1993–95) and the Republic of Ireland (1994–95).

[b] Incident cancer cases were collected from 1993 in Northern Ireland and from 1994 in the Republic of Ireland. However, in order to produce a single UK-wide estimate of the annual percentage change, it was necessary to assume that all countries provided data from 1991.

* $p<0.05$

Blank cells indicate that five-year survival could not be estimated. This occurs in cases where the population is very small, or when the cancer is particularly lethal.

Figure 2a **Range in one-year relative survival (%) by country, for (a) cancers with good prognosis (one-year survival 50% or higher) and (b) cancers with poor prognosis (one-year survival less than 50%): patients diagnosed in the UK and Republic of Ireland 1996–99**

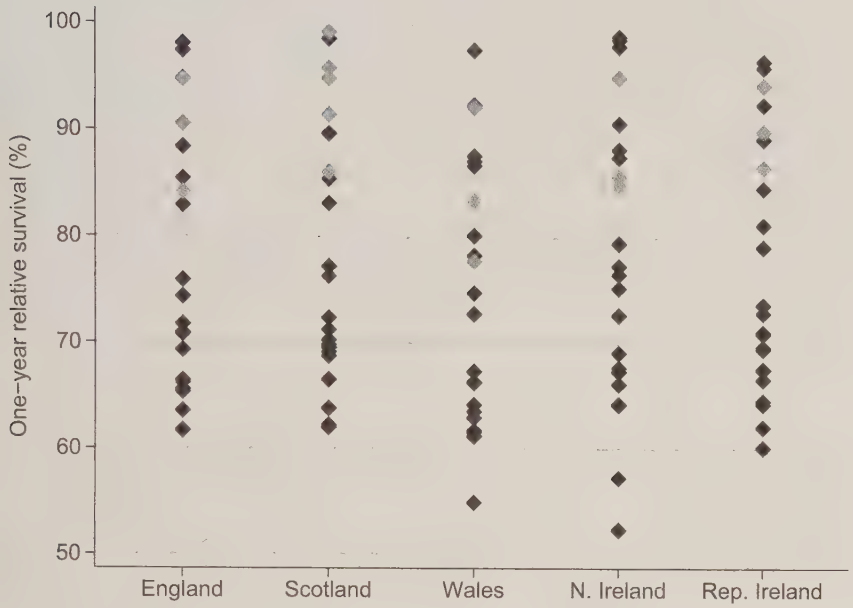
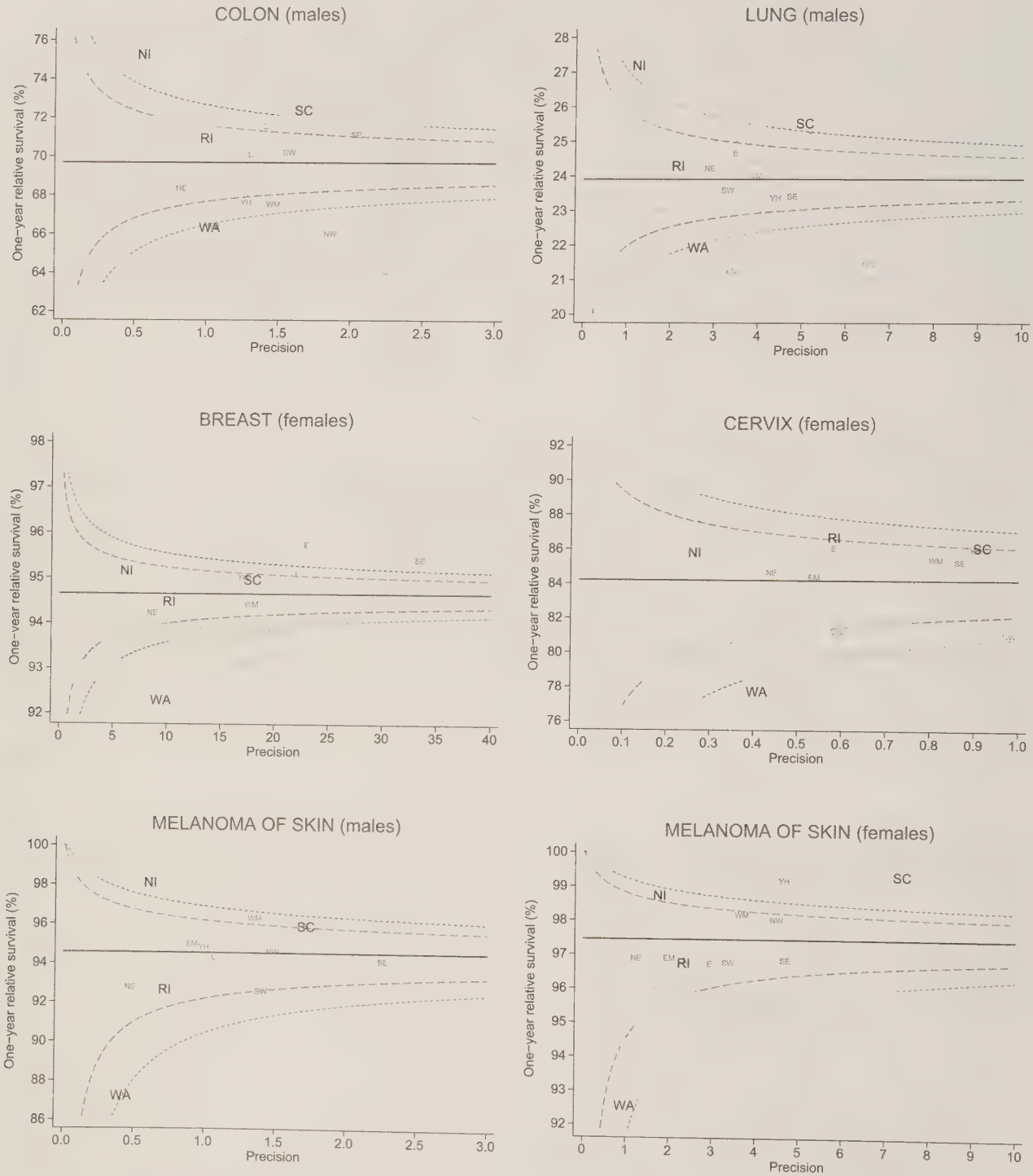


Figure 2b

Grey data points indicate cancers for which active early detection programmes were in place during this period (breast, prostate, cervix and, in Scotland, melanoma).

Figure 3 Funnel plots showing the geographical variation in one-year relative survival for patients diagnosed during 1996–99 in the UK and Republic of Ireland: selected cancers



In each case the horizontal line indicates the estimate for the UK and Republic of Ireland combined with 95% (inner) and 99.8% (outer) confidence intervals.

UK – United Kingdom, EN – England, NI – Northern Ireland, RI – Republic of Ireland, SC – Scotland, WA – Wales; E – Eastern, EM – East Midlands, L – London, NE – North East, NW – North West, SE – South East, SW – South West, WM – West Midlands, YH –Yorkshire and Humber.

The pathological classification and coding of bladder tumours changed markedly during the 1990s, and this had a substantial effect on survival estimates. The proportion of tumours coded as *in situ* (behaviour code 2) or uncertain if benign or malignant (code 1) increased from three per cent in 1991 to more than seven per cent in 1999 in the data as a whole, with the percentage in any given year in the separate countries ranging from less than 1 per cent in Scotland during the years 1991–93 to greater than 50 per cent in Northern Ireland in 1993. *In situ* bladder tumours have very high survival and are routinely excluded from survival estimates for invasive bladder cancers. The data for bladder cancer were analysed both with and without these tumours. Inclusion of bladder cancer classified as *in situ* or of uncertain malignancy led to higher survival estimates in all countries and regions, and it substantially changed the estimates for Northern Ireland (Table 2), and the Eastern region of England (Supplementary Table 4). Given the extreme geographic and temporal variation in the behaviour coded for bladder cancers in the UK and the Republic of Ireland, we judged that survival estimates including tumours coded as *in situ* or of uncertain malignancy were more comparable, and those results are presented here.

Annual increases in relative survival were greatest in England, Northern Ireland and the Republic of Ireland and smallest in Wales and Scotland. The largest overall improvements were observed for cancers of the colon, rectum and prostate. Decreasing or stable survival rates were also observed, but the only observed decline that was statistically significant at the 5 per cent level was that for bladder cancer in Scotland and in England for females: this trend was seen both with and without non-invasive malignancies.

Among patients diagnosed during 1996–99, five-year survival tended to be higher in the Republic of Ireland and Northern Ireland and lower in England and Wales. However, this pattern varied by cancer site. International differences were greatest for cancers of the colon, cervix, prostate, bladder and brain, for melanoma of the skin, multiple myeloma and all the leukaemias combined, whilst differences were smallest for cancers of the stomach, pancreas, breast, uterus, testis and kidney, and for non-Hodgkin lymphoma. Northern Ireland displayed the widest range in survival between different cancers, as would be expected for the country with the smallest population. Despite their smaller populations, Scotland and the Republic of Ireland displayed a similar range of survival to that seen in England, both for cancers with moderate or good prognosis (one-year survival greater than 50 per cent, Figure 2(a)) and for cancers with poorer prognosis (one-year survival less than 50 per cent, Figure 2(b)). Survival tended to be higher in Scotland for cancers for which screening or other early detection methods were in place during this period (breast, cervix, prostate and, in Scotland, melanoma).

There was geographic variation in one-year survival for most cancers in both sexes (Figure 3, Supplementary Figure 2). There was also some significant regional variation within England. One-year survival for melanoma was significantly higher in Scotland and in Northern Ireland than in the regions of England, the Republic of Ireland or Wales. There was also substantial variation in one-year survival from prostate and bladder cancers. The least variation was observed for cancers of the kidney, pancreas, brain, testis and uterus.

Survival tended to be lower in the northern regions of England and higher in the southern regions (Supplementary Figure 1, Supplementary Tables 3 and 4). The largest regional variation was

observed for multiple myeloma, all leukaemias combined, bladder, kidney and brain, while regional variation was least marked for cancers of the breast, pancreas, uterus and testis, and melanoma of the skin.

The proportion of cases with a recorded survival of zero was higher in England (particularly in the Thames region, about 25 per cent of the English population) than in Scotland, Northern Ireland or the Republic of Ireland. We therefore re-analysed the English data excluding cases from the Thames Cancer Registry. This slightly reduced the survival estimates for England.

Discussion

We have shown that the prognosis for patients diagnosed with one of the twenty most common cancers improved between the early and late 1990s in the four constituent countries of the UK and in the Republic of Ireland, and that the survival of patients diagnosed in Scotland and Ireland was generally higher than in England and Wales. Regional variations were also evident in England.

It is important to evaluate the possible role of artefact in explaining differences in cancer survival. Survival will be over-estimated if the linkage of death notifications with registered cancer cases is inefficient. However, we consider it unlikely that variation in the completeness of this linkage between the various national cancer registries is sufficient of itself to explain fully the geographic patterns of survival. Each registry regularly links its cancer patient data to data on deaths occurring in the same country in order to determine which patients have died, and when. The death of a registered cancer patient may be missed if they moved from one country to another after cancer diagnosis. The impact of such migration on survival estimates is likely to be very small: linkages for England and Wales are performed on a single database and regular cross-checks are carried out with the database for Scotland.

Survival is also sensitive to the proportion of 'zero survival' cases excluded from analysis. This category generally includes both patients with 'true' zero survival, who are known to have died on the day of diagnosis and whose cancer registration record reflects that fact, and patients who were registered only from a death certificate (DCO registrations), and for whom the date of diagnosis and the duration of survival are thus unknown. Both categories were excluded from analysis, because they were not distinguishable in the datasets analysed. Patients whose cancer was registered as a DCO tend to have had shorter survival than patients who were registered in life (Berrino *et al.* 1995). A high proportion of zero survival cases excluded from analysis may therefore lead to inflation of the survival estimate. In this study, England and Wales had the highest proportion of zero survival cases, but generally lower survival. In a sensitivity analysis in which the registry with the highest proportion of zero survival cases was excluded, the differences in survival between England and the other countries increased, rather than declined. Differences in the proportion of zero survival cases are therefore unlikely to explain why survival in England and Wales is generally lower than in Scotland, Northern Ireland or the Republic of Ireland.

Estimation of survival may also be influenced by the accuracy and comparability of the rules used to establish the date of diagnosis. For any given patient, several points on the diagnostic pathway could have been used to determine the point of diagnosis, for example, the day of first reported

symptoms, the day of biopsy, the day of a confirmatory laboratory test, or the first day of treatment. During the period in question, the date of diagnosis was defined slightly differently by the five national cancer registries. This may have led to small artefactual differences in survival. The greatest differences are likely to be between Scotland, which always used the earliest date available, and the other four nations, where the date of the event with the highest priority was used. This may have slightly inflated the estimates for Scotland in comparison to the other parts of the UK or Republic of Ireland, particularly for short-term survival and for lethal cancers. Differences in selection of the date of diagnosis do bias survival estimates up to a year after diagnosis (Dickman & Hakulinen 1997), but the impact is much smaller than the geographical differences observed here.

The variations in survival could in theory be due to confounding by age, since relative survival varies with age, and the age profile of cancer patients can differ between populations. Age standardisation would have minimised differences in survival due to these factors. It was not possible to perform comparable age standardisation for all datasets here, but where both types of analysis were feasible, differences between the standardised and non-standardised estimates were small, and variations in survival between the five countries were still evident (data not shown).

It is conceivable that a higher proportion of tumours registered in Scotland, Northern Ireland and the Republic of Ireland are, in fact, *in situ* than is the case in England and Wales. This is unlikely to explain the observed differences in full, because the proportion of tumours verified microscopically is highest in Scotland and in the Republic of Ireland, similar in Northern Ireland and England, with Wales having a much lower proportion (Curado *et al.* 2007; Personal communication to LM Woods from C White, received 20 May 2009). This suggests that, if anything, the proportion of *in situ* cases misclassified as invasive, and therefore artificial inflations in survival, are likely to be greatest in England, Wales and Northern Ireland.

Scotland and Northern Ireland had especially high relative survival from melanoma. This is likely to be due to a combination of active campaigns of earlier detection (Mackie & Hole 1992), and better ascertainment of thin lesions, which have a good prognosis. Better ascertainment of such tumours in Scotland has been suggested by a previous audit study of patients diagnosed during 1987-89 in seven health districts in England and one health board in Scotland (Melia *et al.* 1995). The high completeness of registration in Scotland probably reflects the close working relationship between the Scottish Cancer Registry and the Scottish Melanoma Group, which runs a specialist tumour registry. Lower melanoma survival in Wales may be due either to later diagnosis than in the other countries (patients in Wales would have thicker tumours) or because treatment in Wales is not as good (distribution of tumour thickness would be similar to that in other countries). The Welsh Cancer Intelligence Unit is currently working with dermatologists to obtain more detailed data on tumour thickness.

Although the variations in survival between the UK nations and the Republic of Ireland are not as great as those observed globally (Coleman *et al.* 2008) or within Europe (Berrino *et al.* 2007), there appears to be an overall pattern of lower survival in England and Wales than in the other countries. Three broad causal explanations for this difference in survival may be considered. First, delays in diagnosis may be shorter, patients present at an earlier stage of disease in Scotland, Northern

Ireland and the Republic of Ireland than in England or Wales. Second, access to diagnosis investigations and treatment and/or the quality or organisation of cancer care services may be better in Scotland and Ireland. Third, the underlying characteristics of the cancer patient population may differ in such a way that treatment is more effective in Scotland and Ireland. To evaluate these hypotheses, it would be necessary to obtain more detailed information on pre-diagnosis symptoms, tumour stage at diagnosis, diagnostic tests performed, treatment received and co-morbidity than are routinely captured by the national cancer registry in each country. Such information could be used to examine the impact of delay, treatment, co-morbidity and cancer control policy parameters upon differences in cancer patient survival between the UK nations and the Republic of Ireland. Such detailed information has recently become available in all the UK countries and the Republic of Ireland.

Conclusion

This paper reports cancer survival comparisons between the countries of the UK, the regions of England and the Republic of Ireland for the twenty most common malignancies. We have documented lower cancer survival in England and Wales than in Scotland, Northern Ireland and the Republic of Ireland. Cancer survival in the UK and the Republic of Ireland improved during the 1990s. By the end of the twentieth century there was still geographic variation in survival across the UK and the Republic of Ireland, with the lowest survival in the North of England: regional differences in survival within England are often wider than the differences between the five countries. Despite standardised treatment protocols in England, survival has generally been lower than in Scotland, Northern Ireland and the Republic of Ireland. Artefact is only likely to explain a small component of these differences. Geographic differences in stage at diagnosis, co-morbidity and other clinical factors may also be relevant, particularly if they influence the clinical decision to provide more effective but more aggressive treatment.

Acknowledgements

We gratefully acknowledge the work of our colleagues in the cancer registries of the UK and the Republic of Ireland who collected the original cancer patient data. We are grateful to Diane Stockton for her advice and input on these analyses. Death certificate data for the Republic of Ireland were provided by the Central Statistics Office, Dublin.

Funding

This work was supported by Cancer Research UK [grant numbers C1336/A2990 and C1336/A4014].

References

Berrino, F., De Angelis, R., Sant, M., Rosso, S., Bielska-Lasota, M., Coebergh, J. W., & Santaquilani, M. (2007), "Survival for eight major cancers and all cancers combined for European adults diagnosed in 1995-99: results of the EUROCARE-4 study", *Lancet Oncology*, vol. 8, no. 9, pp. 773-783.

Berrino, F., Sant, M., Verdecchia, A., Capocaccia, R., Hakulinen, T., & Estève, J. Survival of cancer patients in Europe: the EUROCARE study. 1995. Lyon, International Agency for Research on Cancer. *IARC Scientific Publications* No. 132.

Brenner, H. & Rachet, B. (2004), "Hybrid analysis for up-to-date long-term survival rates in cancer registries with delayed recording of incident cases", *European Journal of Cancer*, vol. 40, no. 16, pp. 2494–2501.

Central Statistics Office (1995), *Irish Life Table* No. 12 1990–92, Central Statistics Office, Dublin & Cork.

Central Statistics Office (2004), *Irish Life Table* No. 14 2001–03, Central Statistics Office, Dublin & Cork.

Coleman, M. P., Babb, P., Damiecki, P., Grosclaude, P., Honjo, S., Jones, J., Knerer, G., Pitard, A., Quinn, M. J., Sloggett, A., & De Stavola, B. L. (1999), *Cancer survival trends in England and Wales 1971–1995: deprivation and NHS Region*. Series SMPS No. 61 The Stationery Office, London.

Coleman, M. P., Quaresma, M., Berrino, F., Lutz, J. M., De Angelis, R., Capocaccia, R., Baili, P., Rachet, B., Gatta, G., Hakulinen, T., Micheli, A., Sant, M., Weir, H. K., Elwood, J. M., Tsukuma, H., Koifman, S., Silva, G. A., Francisci, S., Santaquilani, M., Verdecchia, A., Storm, H. H., & Young, J. L. (2008), "Cancer survival in five continents: a worldwide population-based study (CONCORD)", *Lancet Oncology*, vol. 9, no. 8, pp. 730–756

Coleman, M. P., Rachet, B., Woods, L. M., Mitry, E., Riga, M., Cooper, N., Quinn, M. J., Brenner, H., & Estève, J. (2004), "Trends and socioeconomic inequalities in cancer survival in England and Wales up to 2001", *British Journal of Cancer*, vol. 90, no. 7, pp. 1367–1373.

Comber, H. & Walsh, P. (2008), Patterns of care and survival of cancer patients in Ireland 1994 to 2004, National Cancer Registry, Cork.

Curado, M. P., Edwards, B., Shin, H. R., Storm, H., Ferlay, J., Heanue, M., & Boyle, P. Cancer incidence in five continents, volume IX. 2007. Lyon, International Agency for Research on Cancer. IARC *Scientific Publications* No. 160.

Dickman, P. W. & Hakulinen, T. (1997), "The accuracy of index dates and calculation of survival time from cancer registry data", *Journal of Epidemiology and Biostatistics*, vol. 2, pp. 87-94.

Ederer, F., Axtell, L. M., & Cutler, S. J. (1961), "The relative survival: a statistical methodology", *National Cancer Institute Monographs*, vol. 6, pp. 101–121.

Estève, J., Benhamou, E., Croasdale, M., & Raymond, L. (1990), "Relative survival and the estimation of net survival: elements for further discussion", *Statistics in Medicine*, vol. 9, pp. 529–538.

Ewbank, D. C., Gomez de Leon, J. C., & Stoto, M. A. (1983), "A reducible four-parameter system of model life tables", *Population Studies*, vol. 37, pp. 105–127.

Government Actuary's Department (2004) Interim life tables. http://www.gad.gov.uk accessed 7/8/08.

Mackie, R. M. & Hole, D. (1992), "Audit of public education campaign to encourage earlier detection of malignant melanoma", *British Medical Journal*, vol. 304, no. 6833, pp. 1012–1015.

Melia, J., Frost, T., Graham-Brown, R., Hunter, J., Marsden, A., du, V. A., Warin, A. P., White, J., Whitehead, S., & Wroughton, M. (1995), "Problems with registration of cutaneous malignant melanoma in England", *British Journal of Cancer,* vol. 72, no. 1, pp. 224–228.

Northern Ireland Cancer Registry (2007), Survival of cancer patients in Northern Ireland: 1993–04, Queen's University Belfast, Belfast.

Scottish Cancer Intelligence Unit (2000), Trends in cancer survival in Scotland 1971–95, Information and Statistics Division, Edinburgh.

Spiegelhalter, D. J. (2005), "Funnel plots for comparing institutional performance", *Statistics in Medicine,* vol. 24, no. 8, pp. 1185–1202.

Variations in life expectancy between rural and urban areas of England, 2001–07

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Abstract

Background

This study was part of a wider project commissioned by the Department for Environment, Food and Rural Affairs (Defra) to examine inequalities in health outcomes in rural areas. It investigated variations in life expectancy at birth between rural and urban areas of England, taking the effect of deprivation into account. The study aimed to produce results which provide specific evidence of the needs of rural communities, as they have often been overlooked in previous research.

Methods

The Rural and Urban Area Classification (RUAC) 2004 and the Index of Multiple Deprivation (IMD) 2007 were used to categorise area types at the Lower Super Output Area (LSOA) level. Population and mortality data used were produced by the Office for National Statistics (ONS). Abridged life tables were constructed to calculate period life expectancy at birth for males and females, for the years 2001 to 2007 combined. Confidence intervals (95%) were also produced.

Results

For the 2001–07 period, life expectancy at birth in England was 76.9 years for males and 81.3 years for females. However, when deprivation was examined, results between the most deprived and least deprived quintiles varied by 7.8 years for men and 5.4 years for women.

Overall, life expectancy was higher in rural areas than in urban areas. Deprivation had a considerable impact on the results and wide inequalities were evident, particularly in men and in urban areas. In both area types, males living in the less deprived quintiles had similar life expectancies to females living in the more deprived quintiles.

Within rural area types, life expectancy was higher in village and dispersed settlements than in town and fringe areas. There were large differences between the fourth and fifth (most deprived) quintiles in village and dispersed settlements, which shows that there may be acute pockets of deprivation within this area type that need to be addressed.

In terms of sparsity, there was little difference in life expectancy between densely and less densely populated localities within rural and urban areas. However, variations were observed when deprivation was taken into account and greater differences were evident in less sparse areas than in sparse areas.

Conclusions

There were clear inequalities in life expectancy between rural and urban areas in England. There were also intricate differences *within* area types, which can be overlooked when only examining differences *between* them. The results were consistent with the findings of previous studies and demonstrated that it is important to examine differences in life expectancy in both area and deprivation contexts.

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Introduction

This study was part of a project commissioned by the Department for Environment, Food and Rural Affairs (Defra) to investigate inequalities in health outcomes in rural areas of England. Past research into geographical health inequalities in the UK has often focused on variations between administrative areas, sometimes incorporating measures of socio-economic circumstances. There has been relatively little analysis into health inequalities between rural and urban areas, or particularly within rural areas.

The main aim of this project was to examine health advantages and disadvantages in different types of rural areas. This was done by investigating a number of health indicators (including access to services, mortality and life expectancy) to produce results which provide evidence of the needs of rural communities, which can then be addressed through public policy and delivery.

This particular study investigated differences in period life expectancy at birth in England according to different rural and urban area types within the Rural and Urban Area Classification (RUAC) 2004. The effect of deprivation within each area, measured using the Index of Multiple Deprivation (IMD) 2007, was also examined. The analyses utilised the latest population and mortality data, aggregated over the 2001–07 period, to provide a more detailed and robust examination of variations in life expectancy between rural and urban areas than has been produced previously.

Background

There is a common notion of a 'rural idyll' and associated beliefs that rural populations are healthier than their urban counterparts. Various environmental, social and economic factors are often thought to contribute to better rural health. For instance, the availability of clean air, green space and the opportunity for healthy exercise is widely considered to have significant health advantages. Rural areas also experience less deprivation and there is increasing evidence of gentrification (whereby better-off people migrate to the countryside and displace those who are less affluent) in rural settlements (Commission for Rural Communities 2008; Joseph Rowntree Foundation 2000). However, these observations may mask important differences within rural areas, which mean that inequalities are sometimes hidden by favourable averages (Haynes and Gayle 2000).

Rural populations tend to be older than those in urban areas. Ageing is strongly associated with greater healthcare needs, although it has been suggested that rural communities receive relatively less funding than urban areas, meaning that rural health needs may go unmet (Commission for Rural Communities 2008). Rural dwellers are also affected by issues such as the centralisation of services in urban localities, meaning that access to health and social care services can be compromised at key stages for those living in rural areas. Suppositions that people in rural areas experience better health advantages are therefore frequently challenged (Asthana *et al.* 2002).

Life expectancy

Life expectancy at birth has been used as a measure of the health status of the population in England and Wales since the 1840s, and was employed in some of the earliest reports of the

Registrar General to illustrate the differences in mortality experienced by populations in different parts of the country (Toson and Baker 2003).

At present, the Office for National Statistics (ONS) reports annually on life expectancy figures for the United Kingdom (UK), constituent countries and sub-national areas down to local authority level. Results are calculated as three-year averages in accordance with methodological recommendations (Toson and Baker 2003). Life expectancy at birth in the UK is generally higher for females than males and is higher in the south compared with the north (Kyte and Gordon 2009; Office for National Statistics 2009a). For 2006–08, life expectancy in England was highest in the South East, South West and East of England and lowest in the North West and North East. At local authority level, broad inequalities were evident and figures ranged from 73.6 years to 84.3 years for males and from 78.8 years to 88.9 years for females.

In addition to the standard annual figures, results have also been periodically produced to examine life expectancy within smaller geographical areas. ONS calculated life expectancy at ward-level in England and Wales as experimental statistics for the 1999–03 period, aiming to identify a suitable methodology for use with small populations, to establish a minimum population size to make the calculations feasible, and to consider the effects of having no deaths in some age groups (Toson and Baker 2003). The study explored various methods and concluded that Chiang's revised methodology should be used for all sub-national life expectancy calculations, calculations should not be performed for areas with populations of less than 5,000, and that if there are no deaths in the final age band, a value based on national age-specific death rates should be inserted. These recommendations have been followed in this study to calculate life expectancy for rural and urban areas.

While the annual figures provide a useful indicator of health outcomes and are used for monitoring changes and variations in the population's life expectancy, it is not possible to assess specific rural and urban community needs using the results because these areas are not neatly distributed within administrative geographical areas.

At present, there are relatively few studies that have focused on variations in life expectancy between and within rural and urban areas of England and in areas with different levels of deprivation (Charlton 1996; Raleigh and Kiri 1997; Woods *et al.* 2005; Gartner *et al.* 2007). On the whole, they have reported that life expectancies are higher in rural and less deprived areas and lower in urban and more deprived areas, regardless of the time period under investigation. However, the studies are based on differing area and deprivation classifications and the results are now dated. This study develops previous work by using the government's current area and deprivation classifications, and the latest population and mortality data to present a detailed and robust analysis of variations in life expectancy between rural and urban areas in England.

Rural and urban

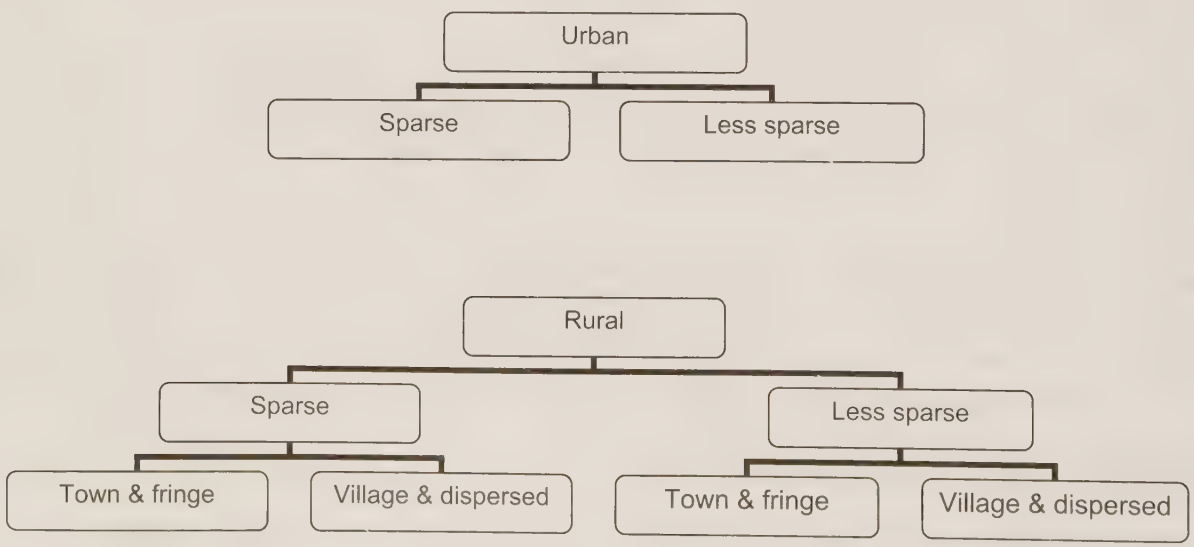
There are numerous definitions and conceptualisations in the literature of what constitutes *rural* and *urban*. The way in which these concepts are defined and understood influences the methods and findings of research (Higgs 1999). For statistical and analytical purposes various classifications have been developed in past research to categorise urban and rural areas. For example, Haynes and Gayle (2000) constructed four urban and rural typologies based on ward

population sizes and distance to a district general hospital. In another example, Huff *et al.* (1999) developed a classification based on the grouping of enumeration districts into urban areas and their subsequent total population sizes. However, such classifications are often devised for individual studies and are therefore limited in the extent to which they can be compared. Further, they are often biased towards urban areas (Barnett *et al.* 2002).

Official classifications of rural and urban areas have been periodically produced by UK government departments. The Rural and Urban Area Classification 2004 for England and Wales was sponsored and developed by various agencies (including Defra, ONS and The Countryside Agency) to overcome the weaknesses identified in previous rural and urban definitions. In particular, rural definitions based on socio-economic circumstances were regarded as unsuitable (The Countryside Agency *et al.* 2004).

In the RUAC, areas with a population of 10,000 or more were categorised as urban, whereas rural settlements were identified according to household and residential land use and densities (Bibby and Shepherd 2004). Areas were then defined according to settlement types and context (sparsity). The classes 'sparse' and 'less sparse' can be interpreted as 'less densely populated' and 'densely populated' respectively. The smallest geography which areas were classified at was 2001 Census Output Areas, which can then be aggregated to larger geographies. Output area boundaries remained stable over the 2001–07 period. Based on sparsity and settlement types, a two-tiered classification can then be structured for rural areas. Box 1 shows the urban and rural classes used in this study.

Box 1 Rural and Urban Area Classification 2004

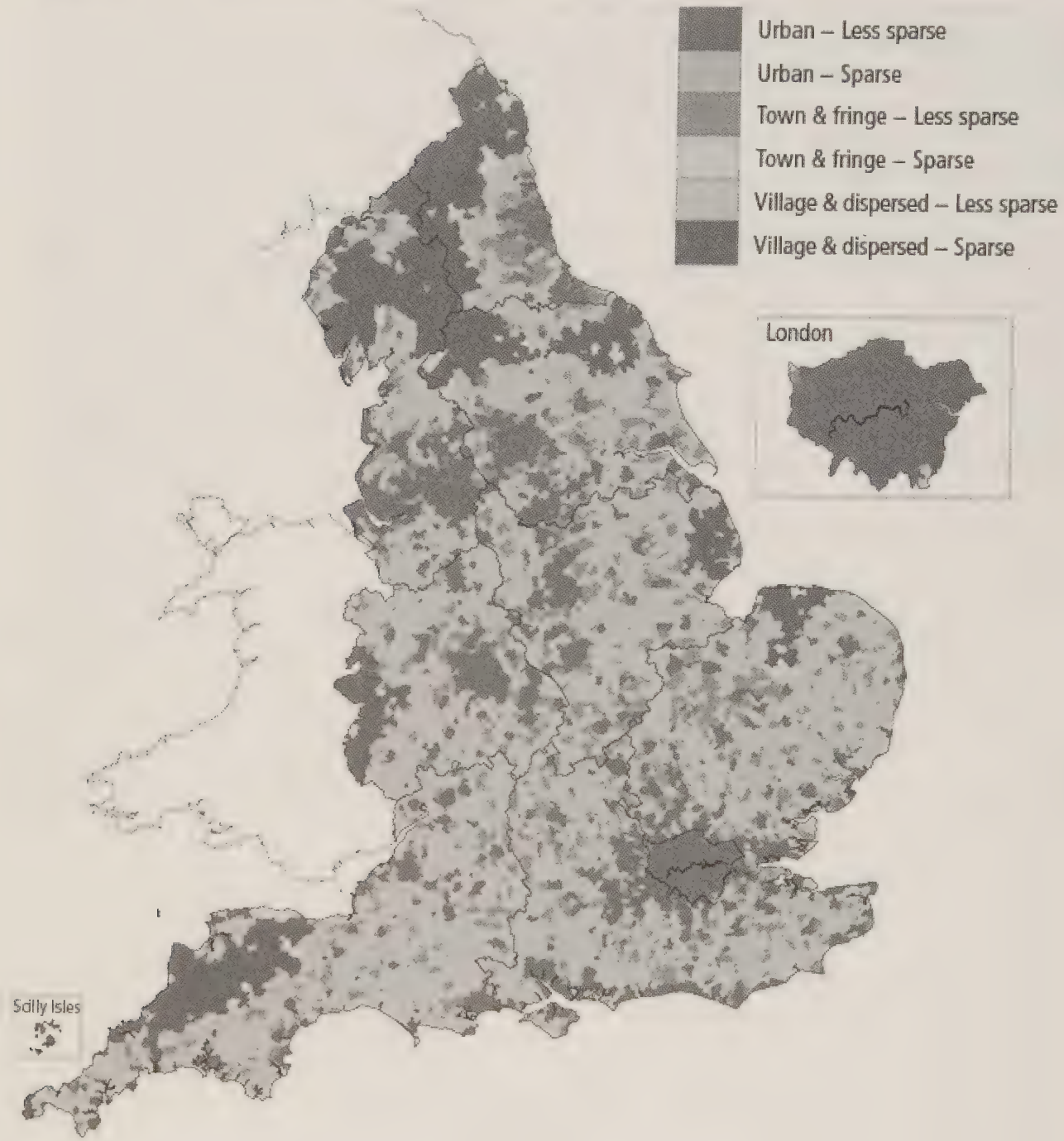


Source: Adapted from Bibby and Shepherd (2004)

The RUAC is a detailed and flexible classification that enables statistical analyses to be performed for a simple rural/urban dichotomy, sparse and less sparse areas, different settlement types, or for the individual classes, depending on the level of analysis required. It improves previous classifications by incorporating a strong rural element and enables more sophisticated analyses to be conduced *within* rural areas than has arguably been previously possible. As the national standard measure, the use of the RUAC allows statistical indicators to be compared across different topical areas.

A map of England illustrating the RUAC at the Lower Super Output Area (LSOA) level is displayed in Figure 1. The map shows that densely populated urban areas are concentrated in and around London, Greater Manchester, Merseyside, and Tyne and Wear. There are also large urban concentrations within Yorkshire and the Humber and the Midlands. In contrast, sparse village and dispersed areas are mainly located in the North of England, particularly around Cumbria. There are also rural pockets on the east coast, in the south east, and in the west of the country. Approximately 80 per cent of the population lived in urban areas and 20 per cent lived in rural areas during the 2001–07 period.

Figure 1 **LSOAs in England by the RUAC 2004**


Urban – Less sparse
Urban – Sparse
Town & fringe – Less sparse
Town & fringe – Sparse
Village & dispersed – Less sparse
Village & dispersed – Sparse
London
Scilly Isles

Deprivation

To understand health variations between rural and urban areas further, analyses of deprivation permit a more in-depth exploration of inequalities within specific area types, which may be hidden by favourable averages of health (Haynes and Gale 2000). Like the concepts of *rural* and *urban*, *deprivation* has been defined and measured in a variety of ways. The term is often used interchangeably with others such as *disadvantage*, *inequality*, *poverty* and *social exclusion* (Asthana *et al.* 2002). Broadly, there are two types of deprivation: economic and social, which manifest through numerous indicators such as income, education and health.

Several indices have been developed and employed in previous studies to quantify indicators of deprivation (for example Jarman 1983; Townsend *et al.* 1988; Carstairs and Morris 1989). However, they have been widely criticised for having an urban bias, meaning that rural issues have often been overlooked, which has potential implications for resource allocation and service planning (Martin *et al.* 2000). Perhaps the most notable criticism levelled against the Townsend and Carstairs-Morris indices concerns the car-ownership indicator. It is argued that rural residents are more reliant on cars than urban dwellers (Gilthorpe and Wilson 2003). Although car-ownership may be a good indicator of wealth in cities, high levels of ownership in rural areas may misrepresent the socio-economic conditions because it is often due to a lack of public transport provision rather than wealth (Haynes and Gale 2000).

The Index of Multiple Deprivation was introduced in 2000. The car-ownership variable was excluded as a deprivation measure, mainly due to criticisms like those above. Uniquely, it included geographical access to services as a measure of deprivation, which is an element that was previously overlooked (Jordan *et al.* 2004). The more recent IMD 2004 and IMD 2007 contain an additional domain of crime. The IMD 2007, used in this study, brings together 38 different indicators which fall within seven domains. The domains each have an associated weight and they are combined to create the overall deprivation index. The domains and weights are shown in Box 2.

Box 2 Index of Multiple Deprivation 2007

Domain	Domain weight
Income deprivation	22.5%
Employment deprivation	22.5%
Health deprivation and disability	13.5%
Education, skills and training deprivation	13.5%
Barriers to housing and services	9.3%
Crime	9.3%
Living environment deprivation	9.3%

Source: Communities and Local Government (2008)

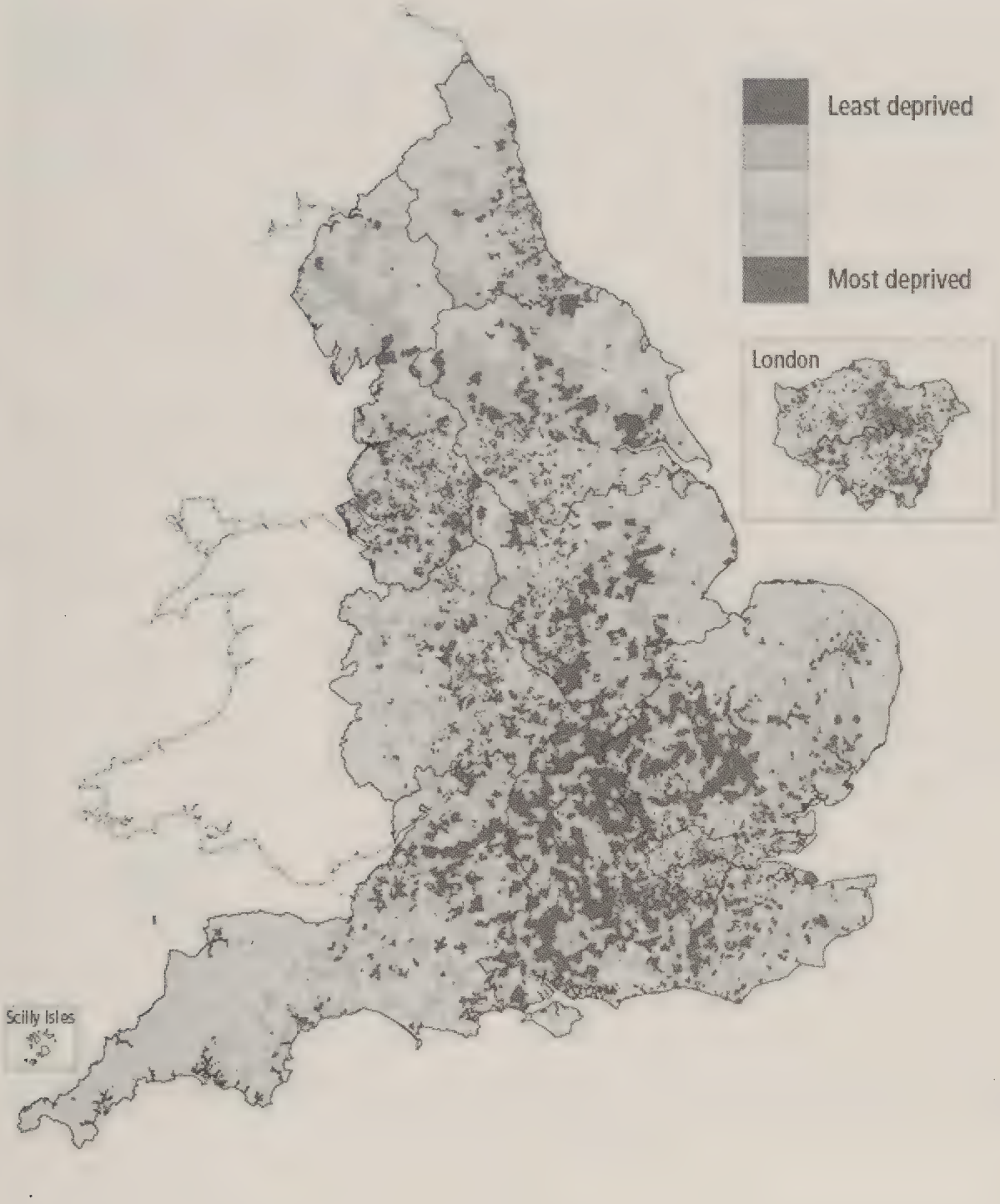
The IMD has been used in various studies to report differences in health outcomes, generally finding better health in the least deprived areas and worse health in the most deprived. For instance, the IMD 2004 was used in a study to determine whether differences between rural and urban mortality were evident once deprivation was taken into account (Gartner *et al.* 2008). When adjustments for deprivation were made in a logistic regression analysis, it was found that differences in mortality were significantly reduced in males, but less so in females. Gartner also investigated the impact of deprivation on mortality rates by including and excluding the health domain, using the income domain only, and using the Townsend index, finding little effect on the

overall results (unpublished). Such studies demonstrate the importance of incorporating deprivation measures when examining differences between rural and urban areas.

A map of England illustrating the IMD 2007 at LSOA level is displayed in Figure 2. It shows that the least deprived areas are mainly located in the southern and eastern regions, while the most deprived areas are located in and around urban concentrations (as shown in Figure 1). There are also a lot of deprived localities in eastern and southern coastal areas, which are often associated with older and seachange populations.

Based on the IMD 2007, the Commission for Rural Communities (2008) state that, on average, rural areas have less concentrated deprivation than urban areas. In terms of sparsity, they observe that levels of deprivation within sparse towns and villages are similar to the levels of deprivation experienced in urban areas. Areas with the least deprivation are identified in 'commuter belt' areas and in the centre of the South of England, where income levels are highest (Commission for Rural Communities 2008).

Figure 2 **LSOAs in England by the IMD 2007**



Methods

Rural and Urban Area Classification (RUAC) 2004

The RUAC 2004 was used in this study to classify areas in England at the LSOA level. There are 32,482 LSOAs in England, with an average population of 1,500 people. Using this classification, results were produced for England, the rural/urban dichotomy, settlement types and sparsity contexts.

Index of Multiple Deprivation (IMD) 2007

The IMD 2007 was additionally employed in this study to assess the impact of deprivation on life expectancies within rural and urban areas. Based on this Index, each LSOA has a total deprivation score and is ranked from 1 (least deprived) to 32,482 (most deprived). The LSOAs were split into approximately equal quintiles for analysis in this study.

Table 1 shows the number of LSOAs in each deprivation quintile according to the six classes of the RUAC. For rural areas, there are more LSOAs in the least deprived quintiles and fewer in the most deprived areas. The urban LSOAs are distributed more evenly across the deprivation quintiles.

Table 1 **Number of LSOAs in England by RUAC 2004 and IMD 2007 quintile, 2001–07**

RUAC 2004			IMD 2007					
Dichotomy	Context	Settlement	Least	2	3	4	Most	Total
Urban	Sparse	≥10,000 population	2	12	18	27	11	70
	Less sparse	≥10,000 population	4,704	4,471	4,996	5,873	6,341	26,385
Rural	Sparse	Town & fringe	17	40	56	38	1	152
		Village & dispersed	5	36	128	57	1	227
	Less Sparse	Town & fringe	1,118	799	571	317	124	2,929
		Village & dispersed	652	1,139	727	184	17	2,719
Total			6,498	6,497	6,496	6,496	6,495	32,482

These categories have small populations and were therefore excluded from the sparsity context life expectancy calculations.

Life expectancy figures were calculated by IMD 2007 quintiles for each of the RUAC groups outlined above. However, two categories (least deprived urban sparse areas and most deprived rural sparse areas) were excluded from the calculations for methodological reasons because they have small populations (Toson and Baker 2003).

Populations and mortality data

The population data used were unpublished, experimental mid-year LSOA population estimates split by sex and five-year age group, produced by ONS. ONS mortality data for persons whose

usual place of residence was in England, by sex and five-year age group were also used. The data were combined for the years 2001 to 2007 to ensure that the numbers were large enough, particularly in areas with fewer LSOAs, to ensure that the results calculated were sufficiently robust.

Calculation of period life expectancy

Abridged life tables were constructed using standard methods (Newell 1994; Shyrock and Siegel 1976). Separate tables were constructed for males and females, and for each analysis with and without the inclusion of IMD 2007 quintiles. The tables were created using annual mid-year population estimates and numbers of deaths registered in each calendar year, which were aggregated over the 2001–07 period. A detailed description of the standard methods and notation associated with the calculation of life expectancy can be found on the Government Actuary's Department website (Government Actuary's Department, online a, online b).

Confidence intervals were calculated using the method developed by Chiang (1968). A report detailing research undertaken by ONS to compare methodologies to allow the calculation of confidence intervals for life expectancy at birth has been published in the National Statistics Methodology Series (Toson and Baker 2003). Confidence intervals are a measure of the statistical precision of an estimate and show the range of uncertainty around the estimated figure. Calculations based on small numbers of events, as is the case in some areas in this analysis, are often subject to random fluctuations. As a general rule, if the confidence interval around one figure overlaps with the interval around another, we cannot say with certainty that there is more than a chance difference between the two figures. Confidence intervals are represented by error bars on the charts below.

An example of a life table constructed using the same method used to calculate life expectancy and confidence intervals in this article can be found on the ONS website (Office for National Statistics 2005).

Interpretation of results

All figures presented are period life expectancies. Period expectation of life at a given age for an area in a given time period is an estimate of the average number of years a person of that age would survive if he or she experienced the particular area's age-specific mortality rates for that time period throughout the rest of his or her life. The figures reflect mortality among those living in the area in each time period, rather than mortality among those born in each area. It is not therefore the number of years a person in the area in each time period could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those in the area may live elsewhere for at least some part of their lives.

Period life expectancy at birth is also not a guide to the remaining expectation of life at any given age. For example, if female life expectancy was 80 years for a particular area, the life expectancy of women aged 65 years in that area would exceed 15 years. This reflects the fact that survival from a particular age depends only on the mortality rates beyond that age, whereas survival from birth is based on mortality rates at every age.

Results

Life expectancy in rural and urban areas

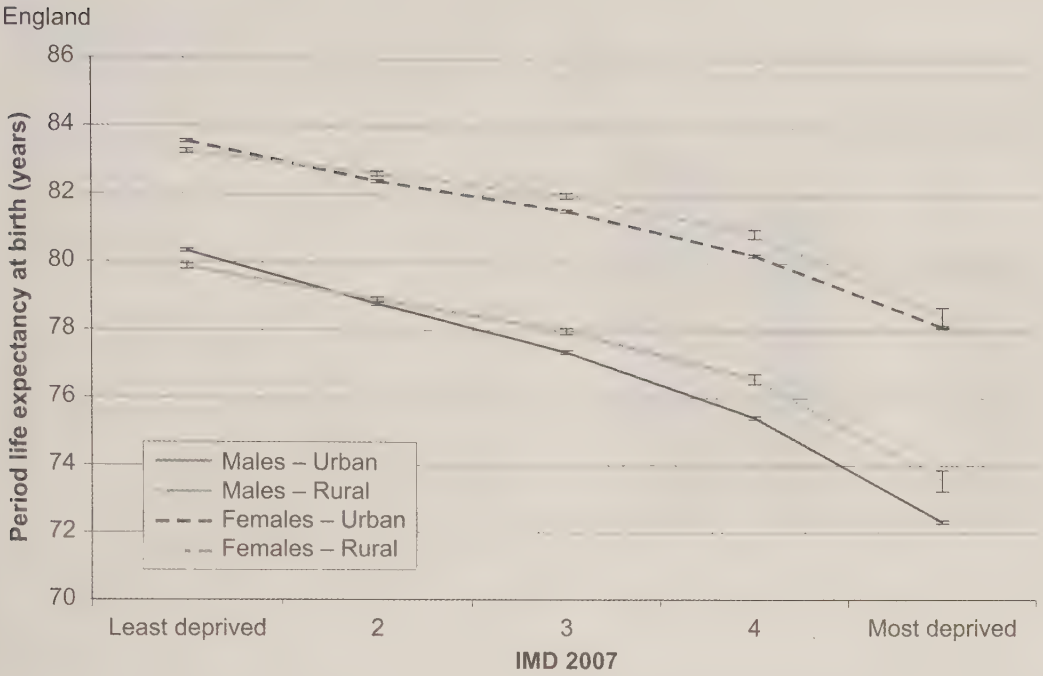
For 2001-07, life expectancy at birth for males in England was 76.9 years. For females, life expectancy was 4.4 years higher at 81.3 years. However, when the figures were calculated by IMD 2007 quintiles, wide variations were observed. Life expectancy for males ranged from 72.4 years in the most deprived areas to 80.2 years in the least deprived areas. For females, expectation of life varied from 78.1 years in the most deprived to 83.5 years in the least deprived areas. This showed differences of 7.8 years and 5.4 years respectively, indicating broader inequalities among males than females.

Using the RUAC 2004, England was divided into dichotomous rural and urban areas. Life expectancy was higher in rural areas than in urban areas for both males and females. For men, life expectancy was 78.6 years in rural areas and 76.5 years in urban areas. The respective figures for women were 82.4 years and 81.0 years. The difference in life expectancy between the areas was wider among males (2.1 years) than females (1.4 years).

When deprivation quintiles were included in the calculations, more detailed differences in life expectancy were evident. Figure 3 shows that in the least deprived quintile, the life expectancy of both males and females was slightly higher in urban areas than in the least deprived rural areas. However, in the other quintiles, life expectancy was lower in urban areas for both men and women. Although the differences between rural and urban areas were relatively small, the gaps in life expectancy tended to be wider between the more deprived quintiles, particularly in males.

In males, life expectancy in urban areas ranged from 72.3 years in the most deprived quintile to 80.3 years in the least deprived, compared with 73.5 years and 79.9 years respectively in rural areas. The variations were much smaller in females, with life expectancy ranging from 78.1 years to 83.6 years in the most deprived to the least deprived urban areas and from 78.4 years to 83.3 years respectively in rural areas. The figures show that inequalities were widest among men in urban areas (8.0 years).

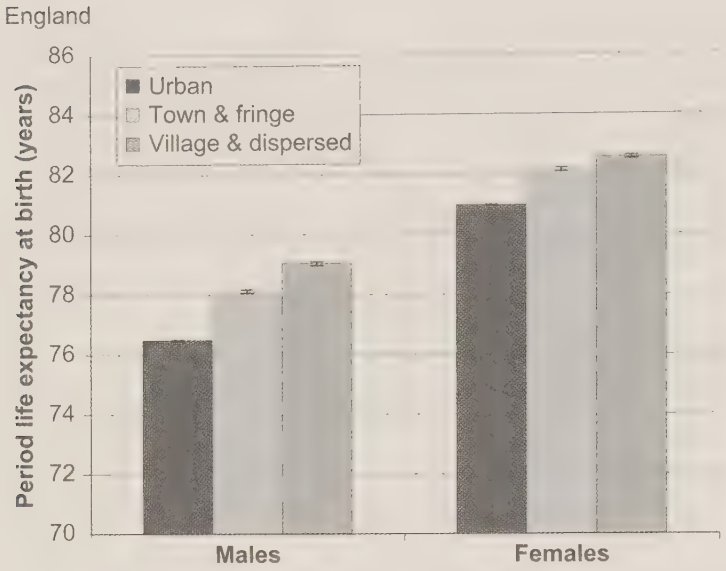
Figure 3 **Period life expectancy at birth by sex and rural/urban dichotomy of the RUAC 2004 and IMD 2007 quintile, England, 2001–07**



Life expectancy in rural and urban settlement types

To provide further detail of variations within rural areas, life expectancy was calculated by the three settlement types of the RUAC 2004: urban, town and fringe, and village and dispersed areas. Figure 4 shows that the expectation of life for males and females was highest in village and dispersed areas and lowest in urban areas.

Figure 4 **Period life expectancy at birth by sex and settlement type of the RUAC 2004, England, 2001–07**



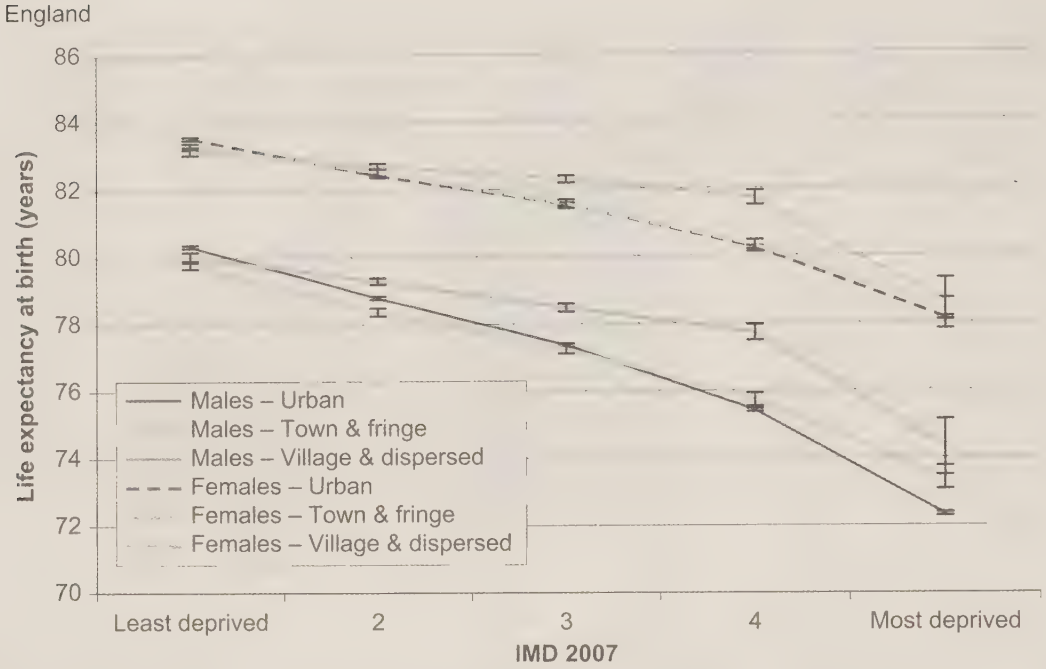
When deprivation quintiles were included in the calculations, Table 2 shows that the life expectancy of males was highest in the least deprived urban areas. However, it was lowest in the most deprived urban areas, showing that the widest inequalities in life expectancy across the three settlement types were in urban areas. From the second deprivation quintile, male life expectancy was highest in village and dispersed areas. For this area type, there was a notable difference of 3.4 years between the fourth and fifth (most deprived) quintiles, compared with just 2.3 years between the first (least deprived) and fourth quintile. However, in comparison with urban and town and fringe areas, there was still smaller variation in life expectancy in village and dispersed settlements.

There was a similar trend in life expectancy by settlement type and deprivation quintile in females. Table 2 shows that expectation of life was highest in the least deprived and lowest in the most deprived urban areas, although the latter result was not significant. In quintiles 2 to 5 (most deprived), life expectancy was highest in village and dispersed settlements and lowest in urban areas, although Figure 5 shows that life expectancy in urban and town and fringe areas had a very similar pattern, differing by less than four months within each deprivation quintile.

Table 2 **Period life expectancy at birth by sex and rural/urban settlement type of the RUAC 2004 and IMD 2007 quintile, England, 2001–07**

Settlement type	IMD 2007	Male life expectancy at birth	Lower 95% confidence interval	Upper 95% confidence interval	Female life expectancy at birth	Lower 95% confidence interval	Upper 95% confidence interval
Urban	Least	80.3	80.3	80.4	83.6	83.5	83.6
	2	78.8	78.7	78.8	82.4	82.4	82.5
	3	77.4	77.3	77.4	81.5	81.5	81.6
	4	75.4	75.4	75.5	80.2	80.2	80.3
	Most	72.3	72.3	72.4	78.1	78.1	78.2
Town & fringe	Least	79.8	79.7	79.9	83.3	83.2	83.4
	2	78.4	78.2	78.5	82.5	82.4	82.6
	3	77.3	77.1	77.4	81.6	81.4	81.7
	4	75.7	75.5	75.9	80.3	80.1	80.5
	Most	73.4	73.1	73.7	78.4	78.1	78.7
Village &	Least	80.0	79.9	80.2	83.2	83.0	83.3
dispersed	2	79.3	79.2	79.4	82.7	82.6	82.8
	3	78.5	78.4	78.6	82.3	82.2	82.4
	4	77.7	77.5	78.0	81.7	81.5	81.9
	Most	74.3	73.5	75.1	78.6	77.8	79.3

Figure 5 **Period life expectancy at birth by sex and rural/urban settlement type of the RUAC 2004 and IMD 2007 quintile, England, 2001–07**



In each settlement type, the differences across the deprivation quintiles were much smaller in females than in males. For females, life expectancy varied by 5.5 years in urban areas, 4.9 years in town and fringe areas, and by 4.6 years in village and dispersed settlements. In males, the differences were 8.0 years, 6.4 years and 5.7 years respectively.

When compared with the England figures, the results for life expectancy across all deprivation quintiles in urban areas are very similar, which may be reflective of the fact that approximately 80 per cent of the population between 2001–07 lived in urban settlements. Although rural areas have fewer residents, variation was evident within different settlement types, with village and dispersed areas experiencing higher life expectancies across the four lowest deprivation quintiles than town and fringe areas. Apart from those in the least deprived quintile, figures for the expectation of life in village and dispersed settlements were above the England average.

Life expectancy in rural and urban sparsity contexts

For further analysis, the RUAC 2004 was split into four sparsity contexts: urban less sparse/sparse and rural less sparse/sparse. Figure 6 shows that life expectancy was highest in rural less sparse areas for males (78.6 years) and in rural sparse areas for females (82.7 years), although variations between rural areas were small and the confidence intervals for males in rural contexts showed that the differences in life expectancy were not significant. The lowest life expectancies were in urban sparse areas for males (76.1 years) and in urban sparse and less sparse areas for females (81.0 years). For both sexes, life expectancy in each of the rural sparsity contexts was above the England average. However, within both rural and urban areas, sparse areas were not significantly different to less sparse areas.

Figure 6 **Period life expectancy at birth by sex and rural/urban sparsity context of the RUAC 2004, England, 2001–07**

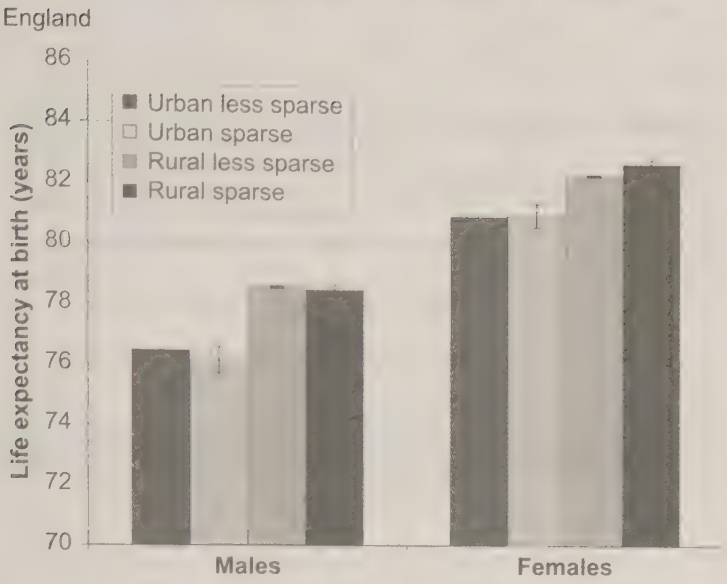


Table 3 shows the life expectancy results for sparsity contexts by deprivation quintile. Results were not calculated for the least deprived urban sparse and the most deprived rural sparse areas due to small populations. The results showed wide variations between the least and most deprived categories. For males, life expectancy was highest in the least deprived urban less sparse areas (80.3 years), although the figure was only 0.4 years higher than life expectancy in the corresponding rural sparse and less sparse areas (79.9 years), and the upper confidence interval in the least deprived rural sparse category was highest at 80.5 years. In contrast, expectation of life was lowest in the most deprived less sparse urban areas (72.3 years). A similar pattern was observed in females, however, the differences between the highest and lowest life expectancies in each sparsity context were smaller. Although not all deprivation quintiles were included in the results, there was less variation in life expectancy in sparse areas than in less sparse areas.

The steepest gradient in life expectancy between the least deprived and most deprived areas was observed in the less sparse urban areas for both males (8.0 years) and females (5.5 years). In men, the differences in other areas ranged by 6.4 years in rural less sparse areas, 6.2 years in urban sparse areas, and 2.1 years in rural sparse areas. The differences were much smaller in women, ranging by 4.9 years, 2.9 years and 1.1 years for the respective areas. However, not all deprivation quintiles were included in these gradients.

Table 3 **Period life expectancy at birth by sex and rural/urban sparsity context of the RUAC 2004 and IMD 2007 quintile, England, 2001–07**

Sparsity context	IMD 2007	Male life expectancy at birth	Lower 95% confidence interval	Upper 95% confidence interval	Female life expectancy at birth	Lower 95% confidence interval	Upper 95% confidence interval
Urban less sparse	Least	80.3	80.3	80.4	83.6	83.5	83.
	2	78.8	78.7	78.8	82.4	82.4	82.
	3	77.4	77.3	77.4	81.5	81.5	81.
	4	75.4	75.4	75.5	80.2	80.2	80.
	Most	72.3	72.3	72.4	78.1	78.1	78.
Urban sparse	Least						
	2	79.4	78.6	80.3	81.2	80.2	82.
	3	77.4	76.5	78.4	82.3	81.5	83.
	4	75.6	74.8	76.3	80.9	80.3	81.
	Most	73.2	72.1	74.3	79.4	78.5	80.
Rural less sparse	Least	79.9	79.8	80.0	83.3	83.2	83.
	2	78.9	78.8	79.0	82.6	82.5	82.
	3	77.9	77.8	78.0	81.9	81.8	81.
	4	76.3	76.1	76.5	80.6	80.4	80.
	Most	73.5	73.2	73.8	78.4	78.1	78.
Rural sparse	Least	79.9	79.2	80.5	82.8	82.1	83.
	2	79.0	78.6	79.4	83.2	82.8	83.
	3	78.5	78.3	78.8	82.9	82.7	83.
	4	77.8	77.4	78.2	82.1	81.8	82.
	Most						

These categories have small populations and were therefore excluded from the life expectancy calculations.

Discussion

Summary of main findings

For the 2001–07 period, life expectancy in England was 76.9 years for males and 81.3 years for females. The inclusion of IMD 2007 deprivation quintiles in the calculations had a large impact on the results, which varied by 7.8 years for men and 5.4 years for women between the least and most deprived quintiles Males living in the less deprived quintiles had similar life expectancies to females living in the more deprived quintiles in both urban and rural areas.

Overall, life expectancy was higher in rural areas than urban areas for both males and females. When the impact of deprivation within different area types was examined, wide inequalities were

evident, particularly among men and in urban areas. Although the expectation of life was highest in the least deprived urban areas, it was also lowest in the most deprived urban areas, showing wide disparities within this area type. Deprivation in rural areas had seemingly less effect on the rural life expectancy figures as there was smaller variation between the least and most deprived quintiles.

Within rural settlement types, life expectancy was higher in village and dispersed areas than town and fringe areas. However, in village and dispersed communities, there was a large difference between the fourth and fifth deprivation quintiles, although the confidence intervals in the most deprived quintile were wide. Nonetheless, this shows that there may be pockets of acute deprivation within this settlement type that need to be addressed.

In terms of rural and urban sparsity contexts, the longest life expectancies were in rural less sparse areas for both sexes. Although not all categories could be included in the deprivation analysis, the results still showed broad variations, with life expectancy being highest in the least deprived urban less sparse areas and lowest in the most deprived urban less sparse areas. Patterns of life expectancies within sparse areas were not clear, even though seven years of data were aggregated. The nature of the areas may mask small pockets of deprivation and poor health which are difficult to capture, and this is reflected in the large confidence intervals surrounding figures for this area type.

Comparison to other studies

The findings of this study were consistent with results and reports from previous research which found that life expectancy is generally higher in rural areas and in less deprived areas, and lower in urban and more deprived areas (Charlton 1996; Gartner *et al.* 2007; Woods *et al.* 2005).

Using the OPCS91 area classification (Wallace *et al.* 1995), Charlton (1997) reported that in 1981 and 1992, life expectancy at birth in England and Wales was lowest in urban areas, particularly in manufacturing and mining areas, while it was highest in the most prosperous, growth and rural areas. Gartner *et al.* (2007) also found that in Wales for 1999-03, there were more urban wards within the fifth of areas with the lowest life expectancies and more rural wards in the highest fifths. Within rural areas of the RUAC 2004, it was also showed that life expectancy was higher in sparse rural wards compared with less sparse rural wards. However, no clear trend was evident between sparse and less sparse rural areas of England in the current study, even when deprivation was taken into account.

In terms of deprivation, studies which have investigated differences in life expectancy across different types of geographical areas (e.g. government office regions and health authorities) have found greater inequalities between the more deprived areas than between lesser deprived areas, and larger variations between men than women (Woods *et al.* 2005; Raleigh and Kiri 1997). These findings are consistent with those in the current study.

Over time, some studies report that while improvements have been made, gaps in life expectancy between areas with the highest and lowest results have increased (Charlton 1996; Raleigh and Kiri 1997). ONS sub-national life expectancy figures calculated from 1991–93 to 2006–08 show that it improved in all local authorities over this period, by 4.2 years on average for men and by 2.9 years on average for women (Office for National Statistics 2009b). However, although variations in life

expectancies between government office regions in England have reduced, differences between local authorities with the highest and lowest life expectancies have widened over this period. Though, when Kensington and Chelsea was excluded from the 2006–08 figures, the differences in the widths of inequality between the two time periods reduced from 2.4 years to 1.0 year for males and from 3.5 years to 0.4 years for females. Due to the availability of LSOA population estimates (from 2001 onwards only) and the number of years for which data needed to be aggregated in the current study, it was not possible to compare time periods. This is highlighted below as a limitation of the analysis.

Limitations of the analysis

An ecological approach was taken to this study, whereby aggregated data about the population in terms of area and deprivation measures were used to produce life expectancy results, to give an indication of average health outcomes. However, this method is susceptible to the ecological fallacy, which means that assumptions about individuals cannot be made from results relating to aggregate data (Bryman 2008). This limitation is also emphasised by the claim that the poor health of individuals can be masked by favourable averages of the surrounding population (Haynes and Gale 2000).

The use of LSOA-level data in this analysis partly minimises this limitation as LSOAs are based on small, approximately equal population sizes. However, rural LSOAs generally cover a larger geographical area in comparison with urban LSOAs, meaning that urban areas are more likely to be homogeneous and include people with similar characteristics. This may have had some effect on the results and account, in part, for larger inequality gaps in urban areas.

Life expectancy at birth figures are based on the current population and mortality rates of a given area. The results are an estimate of the number of years a person would survive if he or she experienced the area's age-specific mortality rates for the rest of his or her life. The methodology takes no account of migration, which may make a significant difference to the results, particularly as there is a tendency for healthier people to migrate while the less healthy stay at home (O'Reilly *et al.* 2007). However, this type of analysis would not be possible within the current death registration system in England as it is the area of usual residence of the deceased that is recorded on death certificates, which does not necessarily reflect the area where they spent most of their life.

This study was based on the assumption that area-based classifications and deprivation-based measures are appropriate and accurate to define and distinguish between different areas. However, limitations and associated methodological issues have been raised in previous work (for example Higgs 1999; Romeri *et al.* 2006). At the individual-level, socio-economic circumstances and health outcomes, even within small areas, may vary greatly and are not necessarily concentrated in, for example, deprived inner city areas or affluent rural settlements. However, the use of small area LSOAs in this analysis is a substantial improvement on previous studies carried out using larger geographical areas.

To improve the current study, the calculation of time series data would enable comparisons to be made over different periods and determine whether inequalities within different area types persist. However, data aggregated over a number of years is required to calculate robust results so further

analyses may be limited in terms of meaningfulness and timeliness. A further option, which would be feasible to build upon this study, would be to include life expectancy at age 65 results in the analysis, particularly as rural populations tend to be older than urban populations.

Although life expectancy figures are a useful indicator of health outcomes, Higgs (1999) states that 'more research is needed to establish the types of factors that are unique to rural areas that may be impacting on health experience and health status' (1999, p.218).

As part of the wider Defra project into inequalities in health outcomes in rural areas, further studies examining differences in mortality, the relationship between self-perceived health and migration and the influence of socio-economic status, and the association between access to health services and the outcomes of heart attacks (survived or died) have been conducted (Forthcoming).

Conclusion

This study reports on variations in life expectancy at birth for males and females in England over the 2001–07 period, by RUAC 2004 and IMD 2007 categories. The results established clear inequalities both between and within rural and urban areas. Life expectancy at birth improved with increasing rurality and those born in village and dispersed areas could expect to live longer than those in town and fringe areas. In terms of sparsity contexts, the highest life expectancies were in less sparse rural areas, although perhaps due to their very nature, results were unclear for both rural and urban sparse areas. Urban areas experienced lower life expectancies over the 2001–07 period compared with rural areas (apart from those in the least deprived quintile) and when the impact of deprivation was considered, urban areas had the widest gaps between the highest and lowest figures, particularly in men.

The results of this study reflect those reported in earlier studies, that people living in rural settlements and in the least deprived areas are expected to live longer than those living in urban and in the most deprived areas. They show that it is important to examine differences in life expectancies in both area and deprivation contexts. Within rural areas, there were intricate differences between life expectancies, which are often overlooked when analysing all rural areas together. The results provide useful evidence of health outcomes experienced within rural and urban areas, which may be used to inform future policy.

References

Asthana, S., Halliday, J., Brigham, P. and Gibson, A. (2002) Rural deprivation and service need: a review of the literature and an assessment of indicators for rural service planning, South West Public Health Observatory: Bristol

Barnett, S., Roderick, P., Martin, D., Diamond, I. and Wrigley, H. (2002) 'Interrelations between three proxies of health care need at the small area level: an urban/rural comparison', *Journal of Epidemiology and Community Health* 56 pp 754-761

Bibby, P. and Shepherd, J. (2004) 'Developing a New Classification of Urban and Rural Areas for Policy Purposes – the Methodology', accessed 10 March 2010, available on the Department for Environment, Food and Rural Affairs website as 'Rural Urban Methodology Report' at: http://www.defra.gov.uk/evidence/statistics/rural/rural-definition.html

Bryman, A. (2008) *Social Research Methods (Third Edition)*, Oxford: Oxford University Press

Carstairs, V. and Morris, R. (1989) 'Deprivation and mortality: an alternative to social class?' *Community Medicine* 11 pp 210-219

Charlton, J. (1996) 'Which areas are healthiest?', *Population Trends* 83 pp 17-24

Chiang, C. L. (1968) 'The life table and its construction' in Chiang C L (Ed) *Introduction to Stochastic Processes in Biostatistics*, John Wiley & Sons: New York

Commission for Rural Communities (2008) *State of the Countryside 2008*, accessed 10 March 2010, available on the Commission for Rural Communities website at: http://www.ruralcommunities.gov.uk/projects/stateofthecountryside2008/overview

Communities and Local Government (2008) *The English Indices of Deprivation 2007*, Communities and Local Government: London

The Countryside Agency, Department for Environment, Food and Rural Affairs, Office of the Deputy Prime Minister, Office for National Statistics, Welsh Assembly Government (2004) *Rural and Urban Area Classification 2004: An Introductory Guide*, accessed 10 March 2010, available on the Office for National Statistics website at: http://www.statistics.gov.uk/geography/downloads/Rural_Urban_Introductory_Guidev2.pdf

Gartner, A., Gibbon, R. and Riley, M. (2007) *A profile of rural health in Wales*, Wales Centre for Health: Cardiff

Gartner, A., Farewell, D., Dunstan, F. and Gordon, E. (2008) 'Differences in mortality between rural and urban areas in England and Wales, 2002-04', *Health Statistics Quarterly* 39 pp 6-13

Gilthorpe, M.S. and Wilson, R.C. (2003) 'Rural/urban differences in the association between deprivation and healthcare utilisation', *Social Science & Medicine* 57 pp 2055-2063

Government Actuary's Department (online a) 'Interim Life Tables Methodology', accessed 10 March 2010, available on the Government Actuary's Department website at: http://www.gad.gov.uk/Demography%20Data/Life%20Tables/Interim_life_tables_methodology.html

Government Actuary's Department (online b) 'Interim Life Tables Notation', accessed 10 March 2010, available on the Government Actuary's Department website at: http://www.gad.gov.uk/Demography%20Data/Life%20Tables/Interim_life_tables_notation.html

Haynes, R. and Gale, S. (2000) 'Deprivation and poor health in rural areas: inequalities hidden by averages', *Health and Place* 6 pp 275-285

Higgs, G. (1999) 'Investigating trends in rural health outcomes: a research agenda', *Geoforum* 30 pp 203-221

Huff, N., Macleod, C., Ebdon, D., Phillips, D., Davies, L. and Nicholson, A. (1999) 'Inequalities in mortality and illness in Trent NHS Region', *Journal of Public Health Medicine*, 21(1) pp 81-87

Jarman, B. (1983) 'Identification of under-privileged areas', *British Medical Journal*, 286 pp 705-709

Jordan, H., Roderick, P. and Martin, D. (2004) 'The Index of Multiple Deprivation 2000 and accessibility effects on health', *Journal of Epidemiology and Community Health* 58 pp 250-257

Joseph Rowntree Foundation (2000) *Exclusive countryside? Social inclusion and regeneration in rural areas*, Joseph Rowntree Foundation: York

Kyte, L. and Gordon, E. (2009) 'Life expectancy at birth and at age 65 by local areas in the United Kingdom, 2006-08', *Health Statistics Quarterly* 44 pp 59-68

Martin, D., Brigham, P., Roderick, P., Barnett, S., Diamond, I. (2000) 'The (mis)representation of rural deprivation', *Environment and Planning A* 32 pp 735-751

Newell, C. (1994) *Methods and Models in Demography*, John Wiley & Sons: Chichester

Office for National Statistics (2005) 'Life table templates', accessed 10 March 2010, available on the Office for National Statistics website at: http://www.statistics.gov.uk/statbase/ssdataset.asp?vlnk=6949

Office for National Statistics (2009a) 'News Release: Life expectancy at birth remains highest in South of England', accessed 10 March 2010, available on the Office for National Statistics website at: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8841

Office for National Statistics (2009b) 'Life expectancy at birth and at age 65 by local areas in the United Kingdom', accessed 10 March 2010, available on the Office for National Statistics website at: http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8841

O'Reilly, G., O'Reilly, D., Rosato, M. and Connolly, S. (2007) 'Urban and rural variations in morbidity and mortality in Northern Ireland', *BMC Public Health* 7:123

Raleigh, V. S. and Kiri, V. A. (1997) 'Life expectancy in England: variations and trends by gender, health authority, and level of deprivation', *Journal of Epidemiology and Community Health* 51 pp 649-658

Romeri, E., Baker, A. and Griffiths, C. (2006) 'Mortality by deprivation and cause of death in England and Wales, 1999-2003', *Health Statistics Quarterly* 32 pp 19-34

Shyrock, H. S. and Siegel, J. S. (1976) *The Methods and Materials of Demography (abridged edition)*, Academic Press: New York

Toson, B. and Baker, A. (2003) 'Life expectancy at birth: methodological options for small populations', *National Statistics Methodological Series No.33*, accessed 10 March 2010, available on the Office for National Statistics website at: http://www.statistics.gov.uk/statbase/Product.asp?vlnk=10626

Townsend, P., Phillimore, P., Beattie, A. (1988) *Health and Deprivation: Inequality and the North*, Bristol: Croom Helm

Wallace, M., Charlton, J. and Denham, C. (1995) 'The new OPCS area classifications', *Population Trends* 79 pp 15-30

Woods, L. M., Rachet, B., Riga, M., Stone, N., Shah, A. and Coleman, M. P. (2005) 'Geographical variation in life expectancy at birth in England and Wales is largely explained by deprivation', *Journal of Epidemiology and Community Health* 59 pp 115-120

Monitoring inequalities in health expectancies in England – small area analyses from the Census 2001 and General Household Survey 2001–05

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Abstract

Background

Deprivation and ill health are intimately linked. Monitoring this relationship in detail and with sufficient frequency is key in attempts to reduce health inequalities through more efficient targeting of healthcare resources. This study explores the potential of the General Household Survey (GHS) to provide an inter-censal measure of health expectancies in small areas experiencing differing degrees of deprivation.

Methods

The prevalence of health status and the health expectancy of males and females at birth and at age 65 by quintiles of small area deprivation are estimated. Comparisons are made between census 2001 and GHS 2001-05 to inform the suitability of the latter as an inter-censal measure of health expectancy across small areas. Comparisons are also made between the health expectancies of people living in more and less deprived areas.

Results

Reports of 'good' and 'fairly good' health fell and health expectancies declined as deprivation increased. Consistency between census and GHS data indicates that the latter is a suitable source for the inter-censal measurement of health expectancies across quintiles of deprivation. At birth, people living in the least deprived areas can expect more than 12 additional years of life in good or fairly good health than those in the most deprived areas, at age 65 the difference was more than four years. In terms of the proportion of life spent in favourable health states; at birth, those living in the least deprived areas could expect to spend around 91 per cent or more of their lives in good or fairly good health compared to 82 per cent for those in the most deprived areas. At age 65, people in the least deprived areas could expect to spend around 82 per cent of their remaining life in good or fairly good health compared to 69 per cent or less for those in the most deprived areas.

Conclusions

This study represents the first use of the Index of Multiple Deprivation (IMD) 2004 in the measurement of health expectancy across small areas. Both the census and GHS highlighted substantial differences in the health status and health expectancies of people experiencing differing degrees of ecological deprivation. These findings serve as a useful measure and benchmark in the targeting and assessment of interventions designed to ameliorate health inequalities.

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Introduction

The relationship between ecological (area based) measures of deprivation and health status measures are often used to determine the presence and scale of health inequality within national populations. These findings are used to assess different health needs and inform the targeting of health resources to reduce health inequalities.

The decennial census of the UK population provides a robust data source with which to explore health inequalities across a number of factors, including area-based deprivation. However, such analyses are only possible at ten year intervals, reducing scope to monitor progress during the inter-censal period. To assess change in health inequalities at more frequent intervals, alternative sources must be explored. Ideally a source should align closely with the census and be sufficiently large in sample terms to enable accurate estimates of populations of interest computed previously using census data.

This report explores the potential of the General Household Survey (GHS) to provide an accurate inter-censal measure of inequality in health expectancies across groups of small areas that experience differing levels of deprivation.

The Department of Health (DH) funded this project as part of a wider programme of work, focusing on the measurement of inequalities in health.

Background

There is a clear relationship between composite measures of health status, such as health expectancies (HE), and measures of socio-economic position (White *et al.* 1999, Melzer *et al.* 2000, Mackenbach *et al.* 2008). However, the incomplete assignment of socio-economic position at an individual level in death registrations, and the absence of inter-censal population estimates disaggregated by socio-economic position, restricts analyses of HE by the National Statistics Socio-economic Classification (NS-SEC), for example, mainly to longitudinal data sources.

To overcome this limitation, measures of deprivation assigned to small areas have often been used as alternative indicators of socio-economic position and several studies report a clear, linear association between health and level of deprivation, however each is defined (Bajekal 2005, O'Reilly, Rosato and Patterson 2005, Wood *et al.* 2006, Morgan and Baker 2006, Rasulo, Bajekal and Yar 2007). Measures of disadvantage based on area deprivation combine individual and environmental characteristics at a given point in time and provide a greater depth of analysis than measures based on occupation and employment status alone (MacIntyre, MacIver and Sooman 1993, Bajekal 2005).

The decennial census provides a wealth of data to explore the relationship between health and area deprivation, however its use to measure change over time is restricted to ten year intervals. Inter-censal analyses provide the opportunity to monitor progress in reducing inequalities in health at more frequent intervals.

Identifying a consistent and continual annual data source of sufficient size and complexity that is coherent with the decennial census is key to producing an inter-censal measure of inequalities in health expectancy. For such a measure to be worthwhile for informing policy, it must be: temporally distinct from the census year; deliverable at least once between census years; able to clearly and precisely distinguish between area deprivation clusters. One likely source is the GHS; which is now the General lifestyle module (GLF) of the Integrated Household Survey (IHS). This survey carries a general health question consistent with the Census 2001, and is currently in use to inform national estimates of Healthy Life Expectancy (HLE). With an annual sample of approximately 20,000 people in England, this survey is small compared to the census, but the data collected over several years can be combined to produce a larger aggregated dataset. In national estimates of HE, for example, current practice is to combine three years of GHS/GLF survey data (Smith, Olatunde and White 2010).

A further concern surrounds the measure of deprivation used in assessing health inequality. Previous studies have used the Carstairs index (Carstairs and Morris 1991) to define distinct geographical areas of deprivation, both at census and inter-censally using the Health Survey for England (HSE) (Bajekal 2005, Rasulo, Bajekal and Yar 2007). However, it is not possible to update the Carstairs index after 2001; an integral component, namely the Registrar General's Social Class (RGSC), has ceased collection in national surveys. Moreover, there is a lack of comparability between the census 2001 and HSE due to differences in the question used to capture general health prevalence in the population.

The Index of Multiple Deprivation (IMD), first introduced in 1999 for electoral wards, is a viable alternative to the Carstairs index; providing a numeric indicator of ecological deprivation based on

relative scores across a number of distinct domains such as income, employment and health. In 2004 the IMD was updated to allow for analysis at Lower Super Output Area (LSOA) geographies (Noble *et al.* 2004) see Box 1.

GHS data can be readily assigned to LSOA level deprivation groupings according to IMD 2004 through postcode matching. Restricting the analysis to quintiles of deprivation and combining five years of GHS data provides a sample of approximately 20,000 people for each quintile, which is sufficient for calculating an inter-censal estimate of health expectancy. Moreover, after the initial five year aggregated period, it is feasible to update the measure prior to the Census 2011, using subsequent years of GHS/GLF data to track change in the gap in health expectancies.

This study assesses the potential of using the GHS as a data source for the inter-censal measurement of inequalities in HE across quintiles of ecological deprivation as defined by IMD 2004. The initial focus compares health status prevalence and HLE by age and gender for each quintile of deprivation calculated from Census 2001 data and GHS 2001–05 (centred on 2003) data. The similarity of quintile specific estimates and therefore the inequality using each data source will indicate the usefulness of the GHS to provide an inter-censal measure of the inequality in HE by area deprivation.

Methods

The analyses in this report contain the prevalence of self-reported health status among the private household population of England; residents of communal establishments are excluded because the GHS does not survey the institutional population. The suitability of the five year aggregated GHS data to provide an inter-censal measure of HE between areas experiencing different degrees of deprivation is assessed by comparing the conformity of its estimates of health status prevalence and health expectancy with those based on the Census 2001 data. Boxes 2, 3 and 4 provide brief descriptions of the survey data and methods used during this study.

Box 1 Area deprivation

IMD 2004 combines seven distinct domains of data to produce a single measure of relative deprivation for each LSOA in England; similar measures have also been constructed for Wales, Northern Ireland and Scotland (Noble *et al.* 2001; 2003, National Assembly for Wales 2005). LSOAs are relatively homogenous in terms of population size and structure; each has approximately 1,500 residents. In this study, the 32,482 LSOAs in England are ranked into quintiles in order to achieve a sufficiently large sample size for subsequent analyses of survey data. Although these quintiles represent a continuum of relative deprivation, there is likely to be a significant degree of heterogeneity within each, such that (for example) those at the bottom of quintile 1 are more closely related to those at the top of quintile 2 than those at the top of quintile 1.

The IMD has been criticised as conceptually difficult when used in health related studies since it includes a 'health' domain to calculate relative levels of area deprivation (Morgan and Baker 2006). Therefore, measurements of health using the IMD as a geographical 'anchor' may potentially suffer from 'mathematical-coupling' where the integral health domain of the IMD influences the relationship with the health outcome under investigation. Recent studies, however, have found little evidence to support this effect, concluding that the presence or absence of the health domain in the IMD 2004 has little or no effect on observed health inequalities, particularly when using general health, limiting chronic illness and/or mortality as outcome measures (Adams and White 2006, Gartner *et al.* 2008).

Box 2 Survey data

Data relating to residents of private households in England were collected from Census 2001 and the GHS 2001–05. An aggregation of five years of GHS data achieves a sufficiently large sample for meaningful analysis across quintiles of deprivation. A similar approach is used in the annual ONS estimates of health expectancies for England.

Census and GHS records were mapped to LSOA geographical boundaries using a postcode identifier, and assigned to the relevant quintile of the IMD 2004 for that area. Census and GHS populations were evenly distributed across deprivation quintiles, each quintile contributing around one–fifth of the population/survey sample (see Table 1).

Residents of communal establishments were excluded from the census data to allow better comparison with the GHS which does not collect this data. It should be noted, however, that mortality data used to calculate HE includes deaths in both private household and communal establishment populations.

Table 1 The number and distribution of private household residents in England responding to the Census in 2001 and to the GHS in 2001–05 by IMD 2004 area deprivation quintile

England

Numbers/ Per cent

Deprivation quintile	Census 2001[1]		GHS 2001–2005	
	Persons (000's)	Per cent	Persons	Per cent
1 – Least deprived	9,694	20.1	20,847	21.4
2	9,682	20.1	19,831	20.3
3	9,631	20.0	19,536	20.0
4	9,596	19.9	18,249	18.9
5 – Most deprived	9,645	20.0	18,896	19.4
Total	48,248	100	97539	100

1 Source: Census 2001. Crown Copyright applies unless otherwise stated, Copyright@ons.gov.uk

Box 3 Health status prevalence

The prevalence of health status by sex and five year age–band was derived from responses to the following general health question asked in both census 2001 and GHS 2001-05:

'Over the last 12 months would you say your health has on the whole been....

Good

Fairly Good

Not good

In this analysis, a binary measure of general health is used to distinguish states of 'good' and 'poor' health; specifically, responses to the general health question were dichotomised by collapsing those reporting 'good' or 'fairly good' health into a single state of 'good' health. The remainder were classified as being in 'poor' health. In comparisons of health status prevalence between census and GHS, data were age standardised to the European standard population to control for the possibility of differences in the age structure between the 2001 census and the GHS samples used.

Box 4 Health expectancies (HE); healthy life expectancy (HLE) and disability free life expectancy (DFLE)

HLE is partly derived from health status prevalence (see Box 3) and partitions life expectancy (LE) into periods of 'good' and 'not good' health. DFLE is partly derived from reports of limiting long–standing/term illness.

HE were calculated using the Sullivan method, combining prevalence and mortality data and mid-year population estimates (MYPE) (Sullivan 1971, Jagger 1996). LSOA level MYPE and mortality data are not available prior to 2001, therefore estimates of HLE derived from Census 2001 data use mortality data only from 2001 and the Census population was used as a proxy measure of the MYPE. For estimates of HLE and DFLE based on the GHS, all data (survey, mortality and MYPE) were aggregated over the period 2001-05.

Comparisons were made between census and GHS based estimates of HLE for males and females at birth and at age 65 across deprivation quintiles.

Results

Comparison of health status prevalence and HLE by area deprivation quintile according to Census 2001 and GHS 2001–05

Health Status prevalence

Both Census and GHS data showed a similar, consistent pattern of increasing prevalence of 'poor' health with rising levels of deprivation and a greater degree of inequality between extremes of deprivation for males compared to females (see Table 2).

Table 2 Comparison of age standardised rates of 'poor' health amongst residents of private households in England by IMD 2004 quintile and sex, Census 2001 and GHS 2001–05

England

Per cent

Deprivation quintile	Census 2001[1]		GHS 2001–2005	
	Males	Females	Males	Females
1 – Least deprived	4.4	4.9	5.9	7.2
2	5.6	6.0	7.8	8.7
3	7.0	7.3	8.6	10.1
4	9.2	9.4	11.2	12.5
5 – Most deprived	13.2	13.1	16.4	16.8
Ratio (5/1)	3.0	2.7	2.8	2.3
95% CI of ratio	3.0–3.0	2.7–2.7	2.6–3.0	2.2–2.5
England	7.7	7.9	9.6	10.8

Significant difference between males and females

Significant difference between males and females and Census 2001 and GHS 2001–05

1. Source: Census 2001. Crown Copyright applies unless otherwise stated, Copyright@ons.gov.uk

At national level, the prevalence of 'poor' health was somewhat higher according to the GHS compared to the census and the gender gap was also more pronounced. Approximately 8 per cent of males and females were in 'poor' health according to census and around 10 and 11 per cent of males and females, respectively, were in 'poor' health according to the GHS.

Compared to the census, the prevalence of 'poor' health was higher for both males and females in the GHS in each quintile of deprivation and this difference was greatest in those living in the most deprived areas. As with national figures, the gender gap was also more pronounced in the GHS compared to the census at each quintile of deprivation.

In the 2001 Census, the prevalence of 'poor' health for males living in the most deprived fifth of LSOAs was three times higher than for males living in the least deprived areas. For females the equivalent inequality was narrower; the prevalence of 'poor' health in the most deprived areas being 2.7 times higher than in the least deprived areas.

Similarly, in the GHS the prevalence of 'poor' health for males in the most deprived areas was 2.8 times higher than in the least deprived areas. The equivalent inequality was again less pronounced for females, the prevalence of 'poor' health being just 2.3 times higher in the most compared to the least deprived areas.

Healthy life expectancy

As with health prevalence, census and GHS estimates of HLE showed similar and consistent patterns across the deprivation quintiles and between the sexes. For both sources, each quintile of deprivation in the cohorts of males or females at birth or at age 65 was significantly different. Estimates of HLE got significantly worse with increasing levels of deprivation and were lower at

birth and at age 65 for males compared to females. In addition, the difference between the extremes of deprivation was greater for males than for females (see Table 3).

Table 3 Census 2001 and GHS 2001–05 estimates of HLE for males and females at birth and at age 65

England

Years/ Per cent

Deprivation quintile	Males						Females					
	Census 2001			GHS 2001-05			Census 2001			GHS 2001-05		
At birth	HLE	Lower 95 per cent CI	Upper 95 per cent CI	HLE	Lower 95 per cent CI	Upper 95 per cent CI	HLE	Lower 95 per cent CI	Upper 95 per cent CI	HLE	Lower 95 per cent CI	Upper 95 per cent CI
1- Least deprived	**74.8**	74.7	74.8	**73.8**	73.3	74.2	**77.4**	77.4	77.4	**75.9**	75.4	76.3
2	**72.6**	72.5	72.6	**71.2**	70.7	71.6	**75.6**	75.6	75.7	**73.3**	72.8	73.8
3	**70.5**	70.4	70.5	**69.5**	69.0	69.9	**73.7**	73.7	73.7	**71.8**	71.3	72.3
4	**67.1**	67.1	67.1	**65.7**	65.2	66.2	**70.8**	70.8	70.8	**68.6**	68.1	69.2
5 - Most deprived	**61.7**	61.6	61.7	**59.5**	58.9	60.0	**66.2**	66.1	66.2	**63.7**	63.1	64.3
Range	**13.1**	13.1	13.1	**14.3**	13.6	15.0	**11.2**	11.2	11.3	**12.2**	11.4	13.0
England	**69.3**	69.3	69.3	**68.0**	67.8	68.3	**72.8**	72.8	72.8	**70.7**	70.5	71.0
At age 65												
1- Least deprived	**15.0**	15.0	15.0	**15.0**	14.6	15.3	**17.1**	17.1	17.1	**17.2**	16.8	17.5
2	**14.0**	14.0	14.0	**13.9**	13.5	14.2	**16.2**	16.2	16.2	**15.7**	15.3	16.1
3	**13.1**	13.0	13.1	**13.0**	12.6	13.3	**15.3**	15.3	15.3	**15.3**	15.0	15.7
4	**11.7**	11.7	11.7	**11.5**	11.1	11.8	**14.1**	14.1	14.1	**13.8**	13.4	14.2
5 - Most deprived	**10.0**	10.0	10.0	**9.5**	9.1	9.9	**12.4**	12.4	12.4	**12.3**	11.9	12.7
Range	**5.0**	5.0	5.0	**5.5**	4.9	6.0	**4.7**	4.7	4.8	**4.8**	4.3	5.4
England	**12.8**	12.8	12.8	**12.7**	12.5	12.8	**15.0**	15.0	15.0	**14.9**	14.7	15.1

Significant difference in HLE between Census and GHS

HLE was lower for males and females at birth in the GHS compared to census; but estimates at age 65 were similar in both data sources. At national level, HLE for males at birth according to census was around 69 years, significantly higher than in the GHS where HLE was approximately 68 years. Similarly HLE was significantly higher at census for females at birth; 72.8 years compared to the GHS at 70.7 years.

By deprivation quintile, estimates of HLE at birth for males and females were also significantly greater in the census compared to the GHS. Additionally, the inequality of HLE between the least and most deprived quintiles was greater in the GHS than in the census; 14.3 vs. 13.2 years for males and 12.2 and 11.2 years for females in the GHS and census respectively. The difference in the scale of inequality between genders, however, was similar at around 2 years in each data source.

At age 65, estimates of HLE for males and females according to census and GHS data were largely equivalent. Nationally at this age, HLE was 12.8 and 12.7 years for males and 15.0 and 14.9 years for females according to census and GHS based data respectively.

For each quintile at age 65, estimates of HLE for males and females were comparable across sources with one exception: among females in quintile 2, HLE was significantly higher at 16.2 years according to census compared to only 15.7 years according to the GHS.

Confidence intervals (CI), signifying the precision of estimates of HLE, were substantially narrower for census based estimates compared to those derived from the GHS. However the 95 per cent CI surrounding estimates based on GHS data are broadly in line with ONS national HLE series for England – i.e. approximately 1 year at birth and 0.7–0.8 of a year at age 65.

HLE and DFLE by deprivation quintile according to the GHS 2001–05

Healthy Life Expectancy

For the most part, salient points relating to HLE by deprivation quintile according to the GHS 2001–05 are detailed above in the comparison of census and GHS data. Further comparisons of life expectancy (LE), HLE and DFLE and the proportions of life spent either in good or fairly good health or free from a limiting long–standing illness or disability by quintile of deprivation according to GHS 2001–05 are shown in table 4.

Table 4 LE, HLE and DFLE for males and females at birth and at age 65 by area deprivation; GHS 2001–05

England

Years/ Per cent

Deprivation quintile										
	At birth	LE	HLE	Lower 95 per cent CI	Upper 95 per cent CI	Proportion of life in 'Good'/'Fairly good' Health (%)	DFLE	Lower 95 per cent CI	Upper 95 per cent CI	Proportion of life free from a limiting long-standing illness or disability (%)
Males	1- Least deprived	**79.8**	**73.8**	73.3	74.2	92.4	**67.7**	67.2	68.3	84.9
	2	**78.5**	**71.2**	70.7	71.6	90.7	**65.3**	64.7	65.8	83.1
	3	**77.2**	**69.5**	69.0	69.9	90.0	**63.7**	63.1	64.2	82.5
	4	**75.2**	**65.7**	65.2	66.2	87.3	**59.8**	59.2	60.4	79.5
	5 - Most deprived	**72.1**	**59.5**	58.9	60.0	82.5	**54.3**	53.6	54.9	75.2
	Range	**7.7**	**14.3**	13.6	15.0	..	**13.5**	12.7	14.3	..
	At age 65									
	1- Least deprived	**18.2**	**15.0**	14.6	15.3	82.2	**12.0**	11.6	12.4	65.8
	2	**17.4**	**13.9**	13.5	14.2	79.6	**11.0**	10.6	11.4	63.2
	3	**16.8**	**13.0**	12.6	13.3	77.4	**10.4**	10.0	10.8	61.9
	4	**15.8**	**11.5**	11.1	11.8	72.5	**9.0**	8.6	9.4	56.9
	5 - Most deprived	**14.6**	**9.5**	9.1	9.9	65.3	**7.5**	7.1	7.9	51.3
	Range	**3.6**	**5.5**	4.9	6.0	..	**4.5**	3.9	5.1	..
Females	1- Least deprived	**83.3**	**75.9**	75.4	76.3	91.1	**69.2**	68.6	69.8	83.1
	2	**82.3**	**73.3**	72.8	73.8	89.1	**67.2**	66.6	67.7	81.6
	3	**81.4**	**71.8**	71.3	72.3	88.2	**66.5**	65.9	67.1	81.7
	4	**80.0**	**68.6**	68.1	69.2	85.8	**62.2**	61.5	62.8	77.7
	5 - Most deprived	**77.9**	**63.7**	63.1	64.3	81.8	**57.7**	57.1	58.4	74.1
	Range	**5.4**	**12.2**	11.4	13.0	..	**11.4**	10.6	12.3	..
	At age 65									
	1- Least deprived	**20.8**	**17.2**	16.8	17.5	82.5	**13.4**	12.9	13.8	64.3
	2	**20.2**	**15.7**	15.3	16.1	77.8	**12.7**	12.3	13.1	63.2
	3	**19.6**	**15.3**	15.0	15.7	78.2	**12.4**	12.0	12.8	63.4
	4	**18.9**	**13.8**	13.4	14.2	73.3	**10.4**	10.0	10.9	55.4
	5 - Most deprived	**17.8**	**12.3**	11.9	12.7	69.3	**9.4**	8.9	9.8	52.6
	Range	**3.0**	**4.8**	4.3	5.4	..	**4.0**	3.4	4.6	..

As with HLE, LE declined with increasing levels of deprivation; however the difference between the least and most deprived quintiles was much narrower. The range in LE at birth between the least and most deprived areas was around half that of HLE at birth (range in LE at birth: 7.7 years for males and 5.4 years for females) and two–thirds that of HLE at age 65 for both sexes (range in LE at age 65: 3.6 years for males and 3 years for females).

The proportion of life spent in good or fairly good health, that is, HLE divided by LE, was broadly similar for males and females in each quintile of deprivation but between quintiles this proportion varied notably. At birth, males and females in the least deprived quintiles could expect to spend approximately 91 to 92 per cent of their lives in good or fairly good health, but for the most deprived quintiles this fell to just 81 to 82 per cent; a difference of around 10 per cent between the extremes of deprivation.

For males, in particular, the greatest difference exists between the most (quintile 5) and next most (quintile 4) deprived areas, where the proportional difference was almost as great as that between quintiles 1 to 4 combined.

At age 65, differences in the estimated proportion of remaining life spent in good or fairly good health between quintiles was more extreme than at birth. At this age, the gap between the least and most deprived areas was around 17 per cent for males and 13 per cent for females; however, the incremental change between quintiles was on the whole smoother than at birth.

Disability Free Life Expectancy

As with HLE, there were clear and significant differences between estimates of DFLE in each quintile of deprivation within the cohorts of males and females at birth and at age 65. DFLE was observed to decrease with increasing level of deprivation. Males at birth and at age 65 had significantly lower estimates than females in each quintile and the inequality in estimated DFLE between the least and most deprived quintile was narrower for females than for males (see Table 4).

At birth, males and females living in the least deprived areas could expect some 13.5 (males) or 11.4 (females) more years of life free from a limiting long–standing illness or disability than their counterparts in the most deprived areas. At age 65, the inequality in DFLE between the least and most deprived quintiles was approximately 4.5 years for males and 4.0 years for females. This difference was of a similar magnitude to the inequality between quintiles seen with HLE although the 95 per cent CIs were a little wider, at around 1.1–1.2 years at birth and 0.8–0.9 years at age 65.

At birth, males and females in the least deprived areas could expect to spend around 9–10 per cent more of their lives without a disability than those in the most deprived areas. At age 65, these differences are larger: 14 per cent for males and 12 per cent for females (see Table 4).

Discussion

This report explores the potential of the GHS to provide an adequate inter-censal measure of health inequality between advantaged and disadvantaged populations, defined using the IMD 2004 measure of deprivation at small area level. Initially, comparisons of health status prevalence and

HLE for area-based deprivation quintiles in each data source were undertaken to assess level of conformity. These represent the first use of LSOA level geographical groupings in health expectancy reporting by ONS and provide further supporting evidence of the relationship between deprivation and health found in previous investigations. The strong association of deprivation and health status and health expectancies are consistent with previous research; increasing levels of deprivation equate to shorter lives, and longer periods of life in states of poor health and disability in both absolute and relative terms.

Census 2001 data clearly distinguishes between level of health status and health expectancy by quintile of deprivation. Significantly fewer people residing in the least deprived areas reported poor health than their counterparts experiencing greater deprivation. The reporting of poor health increased in a predominantly linear pattern with increasing deprivation, which produces a substantial gap between the least and most deprived quintiles. In fact these data show that in 2001 there were three times as many people reporting poor health in the most compared to the least deprived areas.

Similar and consistent differentials were found using the GHS in 2001–05, although the prevalence of poor health was greater in each quintile and the inequality between the least and most deprived areas was slightly narrower, significantly so for females.

Survey data were age-standardised and so differences in the ages of respondents between the GHS and census would not account for the differences observed. Differences in the design of the census and GHS however, in addition to the wider time period applying to GHS data, may contribute to the observed differences in the prevalence of poor health between sources.

There is evidence to suggest that respondents completing self-administered questionnaires (such as the census) are subject to 'primacy effects' whereby the uppermost choices in a list are more likely to be selected. In contrast, respondents in face-to-face interviews (such as the GHS) are more likely to be influenced by 'recency effects' where the answers at the bottom of a list are more likely to be selected (Bowling 2005). Such effects could go some way to explain the differences between the census and GHS in this study. Other likely contributors to the observed differences include interviewer prompting in the GHS and proxy effects in the census data whereby forms may be completed by one household member on behalf of another.

It is also noteworthy that studies have shown that face-to-face interviews result in more positive and socially desirable responses, particularly for health status and behaviour, compared with self-administered questionnaires (Bowling 2005). In the GHS, responses to the general health question may vary with other forms of bias such as interviewer characteristics and the social setting in which questions are asked. In contrast, the self-completion nature of the census may present a cognitive burden on respondents as it assumes a certain level of literacy, understanding of the question and ability to recall events without probing. Given the complex interaction of mode effects and responses to the general health question, it is difficult to disentangle their impact on the reported prevalence of poor health in this study.

The patterns in health status prevalence rates were also observed in estimates of HLE. For the census, there was again a clear linear relationship between deprivation and estimates of life spent in good or fairly good health. HLE decreased significantly with each declining quintile leading to a

substantial gap in HLE between those in the least compared to the most deprived areas. Female HLE was significantly higher than for males at birth and at age 65 in each deprivation quintile although the inequality in estimates between the least and most deprived areas was narrower.

For the reasons noted above and because of differences in mortality and mid-year population estimate data used in their construction, estimates of HLE derived from GHS 2001–05 and Census 2001 cannot be directly compared; however, the relationships between HLE and deprivation, between males and females and between areas of deprivation within each cohort at birth and at age 65 are consistent between the GHS and census.

In the GHS 2001–05, the scale of inequality in HE (HLE and DFLE) between the least and most deprived quintiles was substantial. Some 11 to 14 years of HLE separated people residing in the least and most deprived quintiles. Males and females at birth living in the least deprived areas between 2001 and 2005 could expect to spend approximately 91 to 94 per cent of their lives in good or fairly good health compared with only 82 to 86 per cent in the most deprived areas. At age 65, these differences were more pronounced; those in the least deprived areas can expect to spend 82 to 84 per cent of their remaining lives in good or fairly good health states compared with just 65 to 70 per cent for those in the most deprived areas. Similar patterns were observed for DFLE.

The scale of inequality was greater for men than for women at each point in life examined. This concurs with previous evidence on inequalities in LE and HE by socio-economic position. However, the pattern of inequality across social classes or NS-SEC classes in women is more irregular than the predominantly linear pattern in men (Langford and Johnson 2009, White, Van Galen and Chow 2003). However, by area deprivation, the pattern is predominantly linear for both sexes and therefore provides a better indication of graduated need.

The estimates reported here are broadly consistent with those found in a study using Carstairs deprivation twentieths to identify health inequalities between electoral ward groupings (Rasulo, Bajekal and Yar 2007, Morris and Carstairs 1991). In this study, differences in HLE at birth between the least and most deprived twentieth of wards for males and females respectively were 13.4 and 11.8 years at birth and 5.2 and 4.7 years at age 65. The finer gradation used in that study did not lead to an undue difference in the scale of inequality, suggesting breakdowns of areas into fifths on the basis of level of deprivation are adequate for determining the presence of inequality and its scale. The similar findings serve to verify the approach taken here.

As with other studies, results here also show that measures of longevity alone underestimate the magnitude of inequality between areas or extremes of deprivation when compared with measures which combine mortality and morbidity data into a summary index of quality and quantity of life. The gaps in inequality found in HLE and DFLE were much wider than those found in LE. The gaps in HLE and DFLE at birth between the least and the most deprived areas were approximately twice as great as those observed for LE.

We now intend to extend this analysis to cover more recent years of the GHS/GLF in an attempt to monitor changes in health inequalities over time. This planned work will focus on DFLE as the measure of inequality as the general health question used to inform estimates of HLE in this study

was discontinued in the GHS in 2007; replaced by a EU-harmonised question (Smith and White 2009).

Limitations of GHS data

Of primary concern is the precision of estimates of HLE computed by pooling five years of survey data to form quintiles of deprivation populations. This precision is determined by the width of the 95 per cent CIs surrounding estimates of HLE. Ideally the 95 per cent CI should be less than +/- 1 year at birth and less than +/- 0.5 years at age 65 in order to detect real changes over time. The estimates surrounding GHS based estimates of HLE presented here are a little wider than this target, but broadly equivalent to national estimates of HLE for England and considerably narrower than national estimates for Wales and Scotland. The CIs would become narrower with each additional year of survey data but this would make the time period of the estimate much less desirable as an inter-censal measure.

Despite the fact that the CI's are a little larger than desired, the similarities in the differentials and relationships by deprivation quintile, gender and age between the data sources used in this study, indicates that the GHS is a suitable source for an inter–censal measure health expectancy by quintile of area deprivation. The precision of inter-censal estimates in the near future will improve as data from the Integrated Household Survey core module becomes available for use. This source has a considerably larger sample compared with the GHS/GLF used in this analysis.

Conclusions

The GHS is a useful data source to inform inter–censal estimates of HLE across quintiles of ecological deprivation as defined by IMD 2004 as the pattern observed by level of deprivation concurs with that reported using the Census 2001.

This report provides estimates of LE, HLE and DFLE at birth and age 65 by quintile of deprivation across England for the period 2001–05. As such it provides further evidence of the importance of material deprivation for health outcomes; the clustering of deprivation found in very small population units such as LSOAs serves to guide the targeting of interventions to mitigate differences and set benchmarks to monitor change.

References

Adams, J., White, M. (2006) 'Removing the health domain from the Index of Multiple Deprivation 2004 - effect on measured inequalities in census measure of health.' *Journal of Public Health* 28 pp 379–383.

Bajekal, M. (2005) 'Healthy life expectancy by area deprivation: magnitude and trends in England, 1994–1999.' *Health Statistics Quarterly* 25 pp 18–27.

Bowling, A. (2005). 'Mode of questionnaire administration can have serious effects on data quality.' *Journal of Public Health* 27(3) pp 281–291.

Carstairs, V. and Morris, R. (1991) *Deprivation and Health in Scotland*, Aberdeen University Press: Aberdeen.

Gartner, A., Farewell, D., Dunstan, F. and Gordon, E. (2008) 'Differences in mortality between rural and urban areas in England and Wales, 2002–04.' *Health Statistics Quarterly* 39 pp 6–13.

Jagger, C. (1996) 'Health expectancy calculation by the Sullivan method: a practical guide.' *NUPRI Research paper* series No 68, Tokyo.

Langford, A. and Johnson, B. (2009) 'Social inequalities in adult female mortality by the National Statistics Socio-economic Classification, England and Wales, 2001–03.' *Health Statistics Quarterly* 42 pp 6–21.

MacIntyre, S., MacIver, S. and Sooman, A. (1993) 'Area, class and health: should we be focusing on places or people?' *Journal of Social Psychology* 22 pp 213–234.

Mackenbach, J.P., Stirbu, I., Roskam, A.R., Schaap, M.M., Menvielle, G., Leinsalu, M., Kunst, A.E. (2008) 'Socio-economic Inequalities in Health in 22 European Countries.' *New England Journal of Medicine* 358 pp 2468–2481.

Melzer, D., McWilliams, B., Brayne, C., Johnson, T. and Bond, J. (2000) 'Socio-economic status and the expectation of disability in old age: estimates for England.' *Journal of Epidemiology and Community Health* 54 pp 286–292.

Morgan, O. and Baker, A. (2006) 'Measuring deprivation in England and Wales using 2001 Carstairs scores.' *Health Statistics Quarterly* 31 pp 28–33.

Morris, R. and Carstairs, V. (1991) 'Which deprivation? A comparison of selected deprivation indexes.' *Journal of Public Health Medicine* 13 pp 318–326.

National Assembly for Wales (2005) *The Welsh Index of Multiple Deprivation*, Local Government Data Unit, National Assembly for Wales: Cardiff.

Noble, M., Smith, G.A.N., Wright, G., Dibben, C., Lloyd, M. (2001) *The Northern Ireland Multiple Deprivation Measure* 2001. Northern Ireland Statistics and Research Agency, Occasional Paper no. 18.

Noble, M., Wright, G., Lloyd, M., Dibben, C., Smith, G.A.N. (2003a) *Scottish Indices of Deprivation* 2003: Summary Report. Crown Copyright, Scottish Executive.

Noble, M., Wright, G., Dibben, C., Smith, G., McLennan, D., Anttila, C., Barnes, H., Mokhtar, C., Noble, S., Avenell, D., Gardner, J., Covizzi, I., Lloyd, M. (2004) *The English Indices of Deprivation* 2004: Report to the Office of the Deputy Prime Minister, Neighbourhood Renewal Unit: London.

O'Reilly, D., Rosato, M. and Patterson, C. (2005) 'Self-reported health and mortality: ecological analysis based on electoral wards across the United Kingdom.' *British Medical Journal* 331 pp 938–939.

Rasulo, D., Bajekal, M. and Yar, M. (2007) 'Inequalities in health expectancies in England and Wales – small area analysis from the 2001 Census.' *Health Statistics Quarterly* 34 pp 35–45.

Smith, M., White, C. (2009) 'An investigation into the impact of question change on estimates of general health status and healthy life expectancy' *Health Statistics Quarterly* 41 pp 28–41.

Smith, M., Olatunde, O. and White, C. (2010) 'Update to the methodology used to calculate health expectancies for the UK and constituent countries' *Health Statistics Quarterly* 45 pp 81–99.

Sullivan, D.F. (1971) 'A single index of mortality and morbidity' *HSMHA Health Reports* 86 pp 347–354.

White, C., Van Galen, F. and Chow, Y. (2003) 'Trends in social class differences in mortality by cause, 1986 to 2000.' *Health Statistics Quarterly* 20 pp 25–37.

White, I.R., Blane, D., Morris, J.N. and Mourouga, P. (1999) 'Educational attainment, deprivation–affluence and self–reported health in Britain: a cross sectional study.' *Journal of Epidemiology and Community Health* 53 pp 535–541.

Wood, R., Sutton, M., Clark, D., McKeon, A. and Bain, M. (2006) 'Measuring inequalities in health: the case for healthy life expectancy.' *Journal of Epidemiology and Community Health* 60 pp 1089–1092.

Vital Statistics: Population and Health Reference Tables

Notes to Tables

Time series
For most tables, years start at 1971 and then continue at five-year intervals until 1991. Individual years are shown thereafter.

United Kingdom
The United Kingdom comprises England, Wales, Scotland and Northern Ireland. The Channel Islands and the Isle of Man are not part of the United Kingdom.

Population
The estimated and projected resident population of an area includes all people who usually live there, whatever their nationality. Members of HM and US Armed Forces in the United Kingdom are included on a residential basis wherever possible. HM Forces stationed outside the United Kingdom are not included. Students are taken to be resident at their term time addresses.
Further information can be found at: www.statistics.gov.uk/popest

Live births
For England and Wales, figures relate to the number of births occurring in a period; for Scotland and Northern Ireland, figures relate to births registered in a period. By law, births must be registered within 42 days in England and Wales, within 21 days in Scotland, and within 42 days in Northern Ireland. In England and Wales, where a birth is registered later than the legal time period, and too late to be included in the count for the year of occurrence, it will be included in the count for the following year.

The age-specific fertility rate (ASFR), is the number of births per 1,000 women in the stated age group. The total fertility rate (TFR), is the average number of children that a group of women would have if they experienced the ASFRs for a particular year throughout their childbearing lives. The TFR reflects the current intensity of childbearing and the rate at which the population replaces itself. The TFR is a synthetic measure since ASFRs do not normally remain stable during the childbearing life span of a woman.

Perinatal mortality
In October 1992 the legal definition of a stillbirth was changed, from a baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

Period expectation of life
The life tables on which these expectations are based use death rates for the given period to describe mortality levels for each year. Each individual year shown is based on a three-year period, so that for instance 1986 represents 1985–87. Further information can be found at www.statistics.gov.uk/StatBase/Product.asp?vlnk=14459

Deaths
Figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring each year from 1993 and 2005. Figures for 2006, 2007, 2008 and provisional death figures for 2009 relate to registrations. All infant, neonatal and perinatal mortality data represents registrations. All figures for Scotland and Northern Ireland relate to the number of deaths registered in each year.

Coding cause of death
Between 1 January 1984 and 31 December 1992, ONS applied its own interpretation of the International Classification of Diseases (ICD) Section Rule 3 in the coding of deaths where terminal events and other 'modes of dying' such as cardiac arrest, cardiac failure, certain thrombembolic disorders, and unspecified pneumonia and bronchopneumonia, were stated by the certifier to be the underlying cause of death and other major pathology appeared on the certificate. In these cases ONS Rule 3 allowed the terminal event to be considered a direct sequel to the major pathology and that primary condition was selected as the underlying cause of death. Prior to 1984 and between 1 January 1993 and 31 December 2000, such certificates were coded to the terminal event. ONS also introduced automated coding of cause of death in 1993, which may also affect comparisons of deaths by cause from 1993. Further details can be found in the annual volumes *Mortality statistics: Cause 1984*, Series DH2 no. 11, and *Mortality statistics: Cause 1993 (revised) and 1994*, Series DH2 no. 21.

From 1 January 2001, under ICD–10, Rule 3 was again changed – for details see the article in *Health Statistics Quarterly* 13. This resulted in a fall in the death rates from respiratory diseases, notably pneumonia, and consequently slight rises in the rates for other causes (for example strokes). For details of the major changes between ICD–9 and ICD–10, see the articles in *Health Statistics Quarterly* 08, 13 and 14.

Age-standardised mortality
Directly age-standardised rates make allowances for changes in the age structure of the population. The age-standardised rate for a particular condition is that which would have occurred if the observed age-specific rates for the condition had applied in a given standard population. Table 2.2 uses the European Standard Population. This is a hypothetical population standard which is the same for both males and females allowing standardised rates to be compared for each sex, and between males and females.

Abortions
Figures relate to numbers occurring in a period.

International Migration
The UN recommends the following definition of an international long-term migrant:
An *international long-term migrant* is defined as a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence.
Long-Term International Migration estimates are compiled from several main sources of migration data:
• The richest source of information on international migrants comes from the International Passenger Survey (IPS), which is a sample survey of passengers arriving at, and departing from, the main United Kingdom air and sea ports and Channel Tunnel. This survey provides migration estimates based on respondents' *intended* length of stay in the UK or abroad and excludes most persons seeking asylum and some dependants of such asylum seekers.
• Two adjustments are made to account for people who do not realise their intended length of stay on arrival. First, visitor data from the IPS are used to estimate 'visitor switchers': those people who initially come to or leave the UK for a short period but subsequently stay for a year or longer. Second, people who intend to
be migrants, but who in reality stay in the UK or abroad for less than a year ('migrant switchers'), are estimated from IPS migrant data.
• Home Office data on asylum seekers and their dependants.
• For 2008, data from the Northern Ireland Statistics and Research Agency is used to estimate international migration to and from Northern Ireland.
• For 1991-2007, estimates of migration between the UK and the Irish Republic are estimated using information from the Irish Quarterly National Household Survey and the National Health Service Central Register.

Further information on long-term migration estimates can be found at www.statistics.gov.uk/StatBase/Product.asp?vlnk=507

Internal Migration
Figures in Table 8.1 are based on the movement of NHS doctors' patients between former Health Authorities (HAs) in England and Wales, and Area Health Boards in Scotland and Northern Ireland. Yearly and quarterly figures have been adjusted to take account of differences in recorded cross-border flows between England and Wales, Scotland and Northern Ireland.

Estimates of internal migration are based on the date of acceptance of the new patient by the HA and a one month time lag is assumed. It has been established that NHSCR data under-report the migration of males aged between 16 and 36 (See http://www.statistics.gov.uk/downloads/theme_population/Revising_Internal_Migration_Estimates.pdf.)
Work is underway within the ONS to produce a student adjustment that will be applied to LA level migration tables. This Region and country level table will be unaffected by the planned revisions.

Marriages and divorces
Marriages are tabulated according to date of solemnisation. Divorces are tabulated according to date of decree absolute. The term 'divorces' includes decrees of nullity. The fact that a marriage or divorce has taken place in England, Wales, Scotland or Northern Ireland does not mean either of the parties is resident there.

Civil Partnerships
The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK, the first day couples could give notice of their intention to form a civil partnership. The first day that couples could formally form a partnership was 19 December 2005 in Northern Ireland, 20 December 2005 in Scotland and 21 December 2005 in England and Wales. (18 civil partnerships were formed under special arrangements before these dates. These are included in the figures for England and Wales).

Civil partnerships are tabulated according to date of formation and area of occurrence. The fact that a civil partnership has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean either of the parties is resident there.

EU Enlargement
The coverage of European countries in Table 1.1 has been updated to reflect the enlargement of the EU to 27 member countries (EU27). On 1 May 2004, 10 new member countries were added: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. On 1 January 2007 a further 2 countries were added: Bulgaria and Romania.

Sources
Figures for Scotland and Northern Ireland have been provided by the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency respectively. The International Passenger Survey (see International migration) is conducted by the Surveys and Administrative Sources Directorate of ONS.

Calculating quarterly rates
Quarterly rates are calculated using seasonal adjustments which take into account the number of days in the month/year. The denominators used for calculating quarterly rates have been produced from mid-year population estimates and projections.

Rounding
All figures are rounded independently; constituent parts may not add to totals. Generally numbers and rates per 1,000 population are rounded to one decimal place (e.g. 123.4); where appropriate, for small figures (below 10.0), two decimal places are given (e.g. 7.62). Figures which are provisional or estimated are given in less detail (e.g. 123 or 7.6 respectively) if their reliability does not justify giving the standard amount of detail. Where figures need to be treated with particular caution, an explanation is given as a footnote.

Latest figures
Figures for the latest quarters and years may be provisional, these will be updated in final figures when data is available. Where figures are not yet available, cells are left blank.

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Table 1.1 Population and vital rates: international

Selected Countries

Numbers (thousands)/Rates per thousand

Year	United Kingdom	Austria	Belgium	Bulgaria	Cyprus[1]	Czech Republic	Denmark	Estonia	Finland	France	Germany[2]	Greece[3]	Hungary
Population (thousands)													
1971	55,780	7,501	9,673	8,540	610	9,810	4,963	1,369	4,612	51,251	78,313	8,831	10,370
1976	56,221	7,566	9,818	8,760	613	10,094	5,073	1,435	4,726	52,909	78,337	9,167	10,590
1981	56,344	7,569	9,859	8,891	634	10,293	5,121	1,482	4,800	54,182	78,408	9,729	10,712
1986	56,619	7,588	9,862	8,958	650	10,340	5,120	1,534	4,918	55,547	77,720	9,967	10,631
1991	57,338	7,813	9,979	8,982	693	10,309	5,154	1,566	5,014	57,055	79,984	10,247	10,346
1996	58,095	7,959	10,137	8,363	661	10,315	5,262	1,416	5,125	58,026	81,896	10,709	10,193
2001	59,000	8,021	10,263	8,149	698	10,267	5,349	1,367	5,181	60,964	82,260	10,931	10,200
2002	59,216	8,065	10,310	7,891	706	10,206	5,368	1,361	5,195	61,399	82,440	10,969	10,175
2003	59,435	8,102	10,356	7,846	715	10,203	5,384	1,356	5,206	61,832	82,537	11,006	10,142
2004	59,697	8,140	10,396	7,801	730	10,211	5,398	1,351	5,220	62,252	82,532	11,041	10,117
2005	60,039	8,207	10,446	7,761	749	10,221	5,411	1,348	5,237	62,638	82,501	11,083	10,098
2006	60,410	8,266	10,511	7,719	766	10,251	5,427	1,345	5,256	62,999	82,438	11,125	10,077
2007	60,785	8,299	10,585	7,679	779	10,287	5,447	1,342	5,277	63,392	82,315	11,171	10,066
2008	61,192	8,319	10,667	7,640	789	10,381	5,476	1,341	5,300	63,983	82,218	11,214	10,045
2009	..	8,355	10,750[P]	7,607	797	10,468	5,511	1,340	5,326	64,351	82,002	11,260	10,031
Population changes (per 1,000 per annum)													
1971-76	1.6	1.7	3.0	5.2	1.0	5.8	4.4	9.6	4.9	6.5	0.1	7.6	4.2
1976-81	0.4	0.1	0.8	3.0	6.9	3.9	1.9	6.6	3.1	4.8	0.2	12.3	2.3
1981-86	1.0	0.5	0.1	1.5	5.0	0.9	0.0	7.0	4.9	5.0	–1.8	4.9	–1.5
1986-91	2.5	5.9	2.4	0.5	13.2	–0.6	1.3	4.2	3.9	5.4	5.8	5.6	–5.4
1991-96	2.6	3.7	3.6	–13.8	16.7	0.1	4.2	–19.2	4.4	3.4	4.8	9.0	–3.0
1996-01	3.1	1.6	2.1	–5.1	10.1	–0.9	3.3	–6.9	2.2	10.1	0.9	4.1	0.1
2001-02	3.7	5.5	4.6	–31.7	11.5	–5.9	3.6	–4.4	2.7	7.1	2.2	3.5	–2.5
2002-03	3.7	4.6	4.5	–5.7	12.7	–0.3	3.0	–3.7	2.1	7.1	1.2	3.4	–3.2
2003-04	4.4	4.7	3.9	–5.7	21.0	0.8	2.6	–3.7	2.7	6.8	–0.1	3.2	–2.5
2004-05	5.7	8.2	4.8	–5.1	26.0	1.0	2.4	–2.2	3.3	6.2	–0.4	3.8	–1.9
2005-06	6.2	7.2	6.2	–5.4	22.7	2.9	3.0	–2.2	3.6	5.8	–0.8	3.8	–2.1
2006-07	6.2	4.0	7.0	–5.2	17.0	3.5	3.7	–2.2	4.0	6.2	–1.5	4.1	–1.1
2007-08	6.7	2.4	7.7	–5.1	12.8	9.1	5.3	–0.7	4.4	9.3	–1.2	3.8	–2.1
2008-09	..	4.3	8.2	–4.3	10.1	8.4	6.4	–0.7	4.9	5.8	–2.6	4.1	–1.4
Live birth rate (per 1,000 population per annum)													
1971-75	14.1	13.3	13.4	13.2	17.7	17.8	14.6	15.4	13.1	16.0	10.5	15.8	16.1
1976-80	12.5	11.5	12.5	15.1	19.5	17.1	12.0	15.1	13.6	14.1	10.5	15.6	15.8
1981-85	12.9	12.1	12.0	13.7	22.3	13.5	10.2	15.7	13.4	14.2	10.7	13.3	12.4
1986-90	13.7	11.6	12.1	12.7	19.6	12.7	11.5	15.5	12.6	13.7	11.7	10.5	11.5
1991-95	13.2	11.7	12.0	9.8	17.7	11.1	13.1	10.5	12.8	12.7	9.8	9.9	11.7
1996-00	12.0	10.2	11.2	8.3	13.2	8.8	12.6	8.9	11.3	12.7	9.6	10.2	9.8
2001	11.3	9.4	11.1	8.6	11.6	8.9	12.2	9.3	10.8	13.0	8.9	9.3	9.5
2002	11.3	9.7	10.8	8.5	11.1	9.6	11.9	9.6	10.7	12.7	8.7	9.5	9.5
2003	11.7	9.5	10.8	8.6	11.2	9.2	12.0	9.6	10.9	12.6	8.6	9.5	9.3
2004	12.0	9.7	11.1	9.0	11.3	9.6	12.0	10.4	11.0	12.6	8.6	9.6	9.4
2005	12.0	9.5	11.3	9.2	10.9	10.0	11.9	10.7	11.0	12.7	8.3	9.7	9.7
2006	12.4	9.4	11.5	9.6	11.3	10.3	11.9	11.1	11.2	12.9	8.2	10.0	9.9
2007	12.7	9.2	11.4	9.8	10.9	11.1	11.7	11.8	11.1	12.7	8.3	10.0	9.7
2008	12.9	9.3	11.7	10.2	11.6	11.5	11.8	12.0	11.2	12.8	8.3	10.5	9.9
2009	12.8[P]	9.2[r]	11.5[r]	10.7	11.6[r]	11.1[r]	11.3[r]	11.8[r]	11.3	12.9[r]	7.9[r]	10.7[r]	9.7[r]
Death rate (per 1,000 population per annum)													
1971-75	11.8	12.6	12.1	9.8	9.9	12.4	10.1	11.1	9.5	10.7	12.3	8.6	11.9
1976-80	11.9	12.3	11.6	12.9	8.7	12.5	10.5	12.1	9.3	10.2	12.2	8.9	12.9
1981-85	11.7	12.0	11.3	11.3	9.2	12.8	11.1	12.3	9.3	10.1	12.0	9.0	13.7
1986-90	11.4	11.1	10.8	11.9	8.9	12.4	11.5	11.9	9.8	9.5	11.6	9.3	13.9
1991-95	11.1	10.4	10.4	12.9	8.5	11.6	11.8	13.6	9.8	9.2	11.0	9.4	14.3
1996-00	10.6	9.7	10.3	14.0	7.7	10.8	11.2	13.1	9.6	9.2	10.4	9.7	13.9
2001	10.2	9.3	10.1	14.2	6.9	10.5	10.9	13.6	9.4	8.9	10.1	9.4	13.0
2002	10.2	9.4	10.2	14.3	7.3	10.6	10.9	13.5	9.5	8.9	10.2	9.5	13.1
2003	10.3	9.5	10.3	14.3	7.2	10.9	10.7	13.4	9.4	9.2	10.3	9.6	13.4
2004	9.7	9.1	9.8	14.2	7.1	10.5	10.3	13.1	9.1	8.4	9.9	9.5	13.1
2005	9.7	9.1	9.9	14.6	7.2	10.5	10.1	12.9	9.1	8.6	10.1	9.5	13.5
2006	9.4	9.0	9.6	14.7	6.7	10.2	10.2	12.9	9.1	8.4	10.0	9.5	13.1
2007	9.4	9.0	9.5	14.8	6.9	10.1	10.2	13.0	9.3	8.4	10.1	9.8	13.2
2008	9.4	9.0	..	14.5	6.5	10.1	9.9	12.4	9.2	8.6	10.3	9.6	13.0
2009	9.1[P]	..	..	14.2	..	..	..	..	9.3	..	..	..	..

Notes: Estimated population (as at 1 January) for European countries – see *Eurostat* Website.
Estimated population (mid-year) for all other countries – see the *United Nations Monthly Bulletin of Statistics and the United Nations Demographic Yearbook*.
Live birth and death rates – see the *United Nations Monthly Bulletin of Statistics and the United Nations Demographic Yearbook* (latest update May 2010).
The UK figures in this table include the revised 2002–2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

Table 1.1 continued **Population and vital rates: international**

Selected Countries

Numbers (thousands)/Rates per thousand

Year	Irish Republic	Italy	Latvia	Lithuania	Luxembourg	Malta[4]	Netherlands	Poland[5]	Portugal[6]	Romania	Slovakia	Slovenia	Spain[7]	Sweden
Population (thousands)														
1971	2,992	54,073	2,366	3,160	342	330	13,194	32,800	8,644	20,470	4,540	1,732	34,216	8,098
1976	3,238	55,718	2,465	3,315	361	330	13,774	34,360	9,356	21,450	4,764	1,809	36,118	8,222
1981	3,443	56,502	2,515	3,422	365	322	14,247	35,902	9,851	22,353	4,996	1,910	37,741	8,320
1986	3,543	56,596	2,588	3,560	368	344	14,572	37,456	10,011	22,823	5,179	1,975	38,536	8,370
1991	3,526	56,751	2,662	3,742	387	358	15,070	38,245	9,871	23,185	5,283	2,002	38,920	8,617
1996	3,626	56,860	2,457	3,602	414	380	15,530	38,618	10,058	22,608	5,374	1,991	39,479	8,841
2001	3,833	56,960	2,364	3,487	439	391	15,987	38,254	10,257	22,430	5,379	1,990	40,477	8,883
2002	3,900	56,994	2,346	3,476	444	395	16,105	38,242	10,329	21,833	5,379	1,994	40,964	8,909
2003	3,964	57,321	2,331	3,463	448	397	16,193	38,219	10,407	21,773	5,379	1,995	41,664	8,941
2004	4,028	57,888	2,319	3,446	455	400	16,258	38,191	10,475	21,711	5,380	1,996	42,345	8,976
2005	4,109	58,462	2,306	3,425	461	403	16,306	38,174	10,529	21,659	5,385	1,998	43,038	9,011
2006	4,209	58,752	2,295	3,403	469	405	16,334	38,157	10,570	21,610	5,389	2,003	43,758	9,048
2007	4,313	59,131	2,281	3,385	476	408	16,358	38,125	10,599	21,565	5,394	2,010	44,475	9,113
2008	4,401	59,619	2,271	3,366	484	410	16,405	38,116	10,618	21,529	5,401	2,010	45,283	9,183
2009	4,450	60,045	2,261	3,350	494	414	16,486	38,136	10,627	21,499	5,412	2,032	45,828	9,256
Population changes (per 1,000 per annum)														
1971-76	16.4	6.1	8.4	9.8	10.7	0.0	8.8	9.5	16.5	9.6	9.9	8.9	11.1	3.1
1976-81	12.7	2.8	4.1	6.5	2.5	–4.8	6.9	9.0	10.6	8.4	9.7	11.2	9.0	2.4
1981-86	5.8	0.3	5.8	8.1	1.8	13.7	4.6	8.7	3.2	4.2	7.3	6.8	4.2	1.2
1986-91	–1.0	0.5	5.7	10.2	10.2	8.1	6.8	4.2	–2.8	3.2	4.0	2.7	2.0	5.9
1991-96	5.7	0.4	–15.4	–7.5	13.9	12.3	6.1	2.0	3.8	–5.0	3.4	–1.1	2.9	5.2
1996-01	11.4	0.4	–7.6	–6.4	12.1	5.8	5.9	–1.9	4.0	–1.6	0.2	–0.1	5.1	1.0
2001-02	17.5	0.6	–7.6	–3.2	11.4	10.2	7.4	–0.3	7.0	–26.6	0.0	2.0	12.0	2.9
2002-03	16.4	5.7	–6.4	–3.7	9.0	5.1	5.5	–0.6	7.6	–2.7	0.0	0.5	17.1	3.6
2003-04	16.1	9.9	–5.1	–4.9	15.6	7.6	4.0	–0.7	6.5	–2.8	0.2	0.5	16.3	3.9
2004-05	20.1	9.9	–5.6	–6.1	13.2	7.5	3.0	–0.4	5.2	–2.4	0.9	1.0	16.4	3.9
2005-06	24.3	5.0	–4.8	–6.4	17.4	5.0	1.7	–0.4	3.9	–2.3	0.7	2.5	16.7	4.1
2006-07	24.7	6.5	–6.1	–5.3	14.9	7.4	1.5	–0.8	2.7	–2.1	0.9	3.5	16.4	7.2
2007-08	20.4	8.3	–4.4	–5.6	16.8	4.9	2.9	–0.2	2.0	–1.7	1.3	0.0	18.2	7.7
2008-09	11.1	7.1	–4.4	–4.8	20.7	9.8	4.9	0.5	0.7	–1.4	2.0	10.9	12.0	7.9
Live birth rate (per 1,000 population per annum)														
1971-75	22.2	16.0	14.4	16.4	11.6	17.5	14.9	17.9	20.3	19.3	19.7	16.4	19.2	13.5
1976-80	21.3	12.6	13.9	15.5	11.2	17.0	12.7	19.3	17.7	18.9	20.3	16.2	17.0	11.6
1981-85	19.2	10.6	15.2	16.0	11.6	15.3	12.2	19.0	14.5	15.6	18.0	14.2	12.8	11.3
1986-90	15.9	9.7	15.3	15.8	12.1	16.0	12.8	15.5	12.2	15.8	15.8	12.3	10.7	13.2
1991-95	14.0	9.6	10.7	12.9	13.2	14.0	12.8	12.9	11.3	11.1	13.3	10.0	9.8	13.3
1996-00	14.2	9.2	8.0	10.4	13.1	12.0	12.6	10.4	11.3	10.4	10.7	9.1	9.5	10.2
2001	15.1	9.2	8.3	9.1	12.4	10.1	12.6	9.6	11.0	9.8	9.5	8.8	10.0	10.3
2002	15.4	9.4	8.6	8.7	12.0	10.1	12.5	9.3	11.0	9.7	9.5	8.8	10.1	10.7
2003	15.5	9.4	9.0	8.9	11.7	10.2	12.3	9.2	10.8	9.8	9.6	8.7	10.5	11.1
2004	15.3	9.7	8.8	8.9	11.9	9.7	11.9	9.3	10.4	10.0	10.0	9.0	10.6	11.2
2005	14.9	9.5	9.3	8.9	11.5	9.6	11.5	9.5	10.4	10.2	10.1	9.1	10.7	11.2
2006	15.2	9.5	9.7	9.2	11.7	9.6	11.3	9.8	10.0	10.2	10.0	9.4	11.0	11.7
2007	16.3	9.5	10.2	9.6	11.4	9.5	11.1	10.2	9.7	10.0	10.1	9.8	11.0	11.7
2008	17.0	9.6	10.6	10.4	11.5	10.0	11.2	10.9	9.8	10.3	10.6	10.8	11.4	11.9
2009	16.8[f]	9.2[f]	9.9[f]	11.1[f]	11.2[f]	9.5[f]	11.2	11.2	9.2[f]	10.6[f]	11.3[f]	11.0[f]	12.3[f]	12.0
Death rate (per 1,000 population per annum)														
1971-75	11.0	9.8	11.6	9.0	12.2	9.0	8.3	8.4	11.0	9.4	9.4	10.0	8.5	10.5
1976-80	10.2	9.7	12.6	10.1	11.5	9.0	8.1	9.2	10.0	9.8	9.8	9.8	8.0	10.9
1981-85	9.4	9.5	12.8	10.6	11.2	8.2	8.3	9.6	9.6	10.3	10.1	10.2	7.8	11.0
1986-90	9.1	9.3	12.4	10.3	10.5	7.4	8.5	10.0	9.8	10.8	10.1	9.6	8.2	11.1
1991-95	8.8	9.7	14.8	11.8	9.7	7.6	8.7	10.2	10.3	11.5	9.9	9.7	8.7	10.8
1996-00	8.5	9.8	13.9	11.5	9.0	7.7	8.8	9.8	10.5	12.0	9.7	9.5	9.1	10.6
2001	7.9	9.6	14.0	11.6	8.4	7.6	8.7	9.5	10.2	11.6	9.7	9.3	8.9	10.5
2002	7.6	9.8	13.9	11.8	8.4	7.8	8.8	9.4	10.2	12.4	9.6	9.4	8.9	10.6
2003	7.3	10.2	13.9	11.9	9.0	7.9	8.7	9.6	10.4	12.3	9.7	9.7	9.2	10.4
2004	7.1	9.4	13.8	12.0	7.8	7.5	8.4	9.5	9.7	11.9	9.6	9.3	8.7	10.1
2005	6.8	9.7	14.2	12.8	7.8	7.8	8.4	9.7	10.2	12.1	9.9	9.4	8.9	10.2
2006	6.5	9.5	14.5	13.2	8.0	7.9	8.3	9.7	9.6	12.0	9.9	9.1	8.4	10.0
2007	6.5	9.7	14.5	13.5	8.1	7.6	8.1	9.9	9.8	11.7	10.0	9.2	8.6	10.0
2008	6.4	9.7	13.7	13.1	7.4	7.9	8.2	10.0	9.8	11.8	9.8	9.1	8.6	9.9
2009	..	..	..	..	..	..	8.1	10.1	..	..	..	..	..	9.7

1 Republic of Cyprus – Data refer to Government controlled areas.
2 Including former GDR throughout.
3 Greece – population excludes armed forces stationed outside the country but includes alien forces stationed in the area.
4 Malta – including work and resident permit holders and foreigners residing in Malta.
5 Poland – excluding civilian aliens within the country but including civilian nationals temporarily outside the country.
6 Portugal – including the Azores and Madeira islands.
7 Spain – including the Balearic and Canary Islands.
8 For 1971 the European Union consisted of the 6 original member countries This has since been expanded to include: 9 countries (1976-EU15); 10 countries (2004-EU25); 2 countries (2007-EU27). In this table, all totals include the EU27.
9 Population estimates for Canada have been adjusted for census net undercoverage (including adjustment for incompletely enumerated Indian reserves). Estimates for 2001–2005 are final intercensal estimates. Estimates for 2006 are final postcensal estimates. Estimates for 2007 are updated postcensal estimates. Estimates for 2008 are preliminary postcensal estimates.
10 For statistical purposes all data for China do not include those for the Hong Kong SAR, Macao SAR and Taiwan province of China. Population data have been estimated on the basis of the annual National Sample Surveys on Population Changes.
11 Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.
12 Japan – excluding diplomatic personnel outside the country and foreign military and civilian personnel and their dependants stationed in the area.
13 USA – excluding armed forces overseas and civilian citizens absent from the country for extended periods.
14 Mid-year estimates have been adjusted for underenumeration; at latest census.
15 Indicates population estimates of uncertain reliability.
16 Data for 2005 are estimated from the National Sample Survey of 1 per cent population.
17 Data refer to national projections.
18 Rate is for 1990–1995.
p provisional, preliminary or estimated figure.
f Eurostat forcast.

Table 1.1 continued Population and vital rates: international

Selected Countries

Year	EU[3]	Russian Federation	Australia	Canada[4]	New Zealand	China[13]	India[11]	Japan[1,2]	USA[1,2]
Population (thousands)									
1971	438,728	130,934	13,067	22,026	2,899	852,290[15]	551,311	105,145	207,661
1976	450,468	135,027	14,033	23,517	3,163	937,170[15]	617,248	113,094	218,035
1981	459,807	139,225	14,923	24,900	3,195	1,008,460[15]	675,185	117,902	229,958
1986	465,336	144,154	16,018	26,204	3,317	1,086,733[15]	767,199	121,672	240,680
1991	473,094	148,245	17,284	28,031	3,477	1,170,100[15]	851,897	123,964	252,639
1996	478,084	148,160	18,311[14]	29,611	3,732	1,217,550[15]	942,157[15]	125,757	269,394
2001	483,781	145,976	19,413[14]	31,021	3,881	1,271,850[15]	1,034,931[15]	127,149	285,115
2002	484,611	145,306	19,651[14]	31,354	3,949	1,280,400[15]	1,051,258[15,17]	127,445	287,888
2003	486,615	144,566	19,895[14]	31,640	4,027	1,288,400[15]	1,068,065[15,17]	127,718	290,448
2004	488,754	143,821	20,127[14]	31,941	4,088	1,296,075[15]	1,084,757[15,17]	127,761	293,192
2005	491,005	143,114	20,395[14]	32,245	4,134	1,303,720[15,16]	1,101,328[15,17]	127,773	295,896
2006	492,992	142,487	20,698[14]	32,576	4,185	1,311,020[15]	1,117,734[15,17]	127,756	298,755
2007	495,057	142,115	21,072[14]	32,927	4,228	1,324,655[15]	1,134,023[15,17]	127,772	301,621
2008	497,663	141,956	21,432[14,P]	33,311[P]	4,269	..	1,150,196[15,17]	127,704	304,060[P]
2009	..	141,900	21,875[14,P]	..	4,316	..	1,166,000[15,17,P]	..	..
Population changes (per 1,000 per annum)									
1971-76	5.4	6.3	14.8	13.5	18.2	19.9	23.9	15.1	10.0
1976-81	4.1	6.2	12.7	11.8	2.0	15.2	18.8	8.5	10.9
1981-86	2.4	7.1	14.7	10.5	7.6	15.5	27.3	6.4	9.3
1986-91	3.3	5.7	15.8	13.9	9.6	15.3	22.1	3.8	9.9
1991-96	2.1	–1.7	11.9	11.3	14.7	10.3	21.2	2.9	12.1
1996-01	2.4	–2.9	12.0	9.5	8.0	8.9	19.7	2.2	11.7
2001-02	1.7	–4.6	12.3	10.7	17.5	6.7	15.8	2.3	9.7
2002-03	4.1	–5.1	12.4	9.1	19.8	6.2	16.0	2.1	8.9
2003-04	4.4	–5.2	11.7	9.5	15.1	6.0	15.6	0.3	9.4
2004-05	4.6	–4.9	13.3	9.5	11.3	5.9	15.3	0.1	9.2
2005-06	4.0	–4.4	14.9	10.3	12.3	5.6	14.9	–0.1	9.7
2006-07	4.2	–2.6	18.1	10.8	10.3	10.4	14.6	0.1	9.6
2007-08	5.3	–1.1	17.1	11.7	9.9	..	14.3	–0.5	8.1
2008-09	..	–0.4	20.7	..	10.8	..	13.7	..	..
Live birth rate (per 1,000 population per annum)									
1971-75	..	..	18.8	15.9	20.4	27.2	35.6	18.6	15.3
1976-80	14.1	18.3	15.7	15.5	16.9	18.6	33.4	14.8	14.8
1981-85	13.1	17.9	15.6	15.1	16.0	19.2	..	12.5	13.0
1986-90	12.6	15.7	15.1	14.4	17.1	..	..	10.6	16.0
1991-95	11.4	10.2	14.7	13.6	16.9	18.5[18]	..	9.7	13.1
1996-00	10.6	8.6	13.4	11.4	14.9	..	..	9.5	14.3
2001	10.4	9.0	12.7	10.8	14.4	13.4	25.4	9.2	14.1
2002	10.3	9.6	12.7	10.5	13.7	12.9	25.0	9.2	14.0
2003	10.3	10.2	12.6	10.6	13.9	12.4	24.8	8.9	14.1
2004	10.4	10.4	12.6	10.5	14.2	12.3	24.1	8.8	14.0
2005	10.4	10.2	12.7	10.6	14.0	12.4	23.8	8.4	14.0
2006	10.6	10.4	12.8	10.7	14.1	12.1	23.5	8.7	14.3
2007	10.6	11.3	13.5	..	15.1	12.0	23.1	8.6	14.3
2008	10.9	12.1	13.8	..	15.1	..	..	8.7	..
2009	10.8[f]	..	..	..	..	..	..	..	..
Death rate (per 1,000 population per annum)									
1971-75	..	..	8.2	7.4	8.4	7.3	15.5	6.4	9.1
1976-80	10.6	..	7.6	7.2	8.2	6.6	13.8	6.1	8.7
1981-85	10.5	10.7	7.3	7.1	8.1	6.7	..	6.1	8.6
1986-90	10.4	10.7	7.2	7.1	8.2	..	..	6.4	8.7
1991-95	10.4	13.7	7.0	7.1	7.8	..	..	7.0	8.7
1996-00	10.2	14.3	6.9	7.2	7.2	..	..	7.4	8.5
2001	9.9	15.4	6.6	7.1	7.2	6.4	8.4	7.6	8.5
2002	9.9	16.1	6.8	7.1	7.1	6.4	8.1	7.8	8.5
2003	10.1	16.4	6.6	7.1	7.0	6.4	8.0	8.0	8.4
2004	9.6	16.0	6.6	7.1	7.0	6.4	7.5	8.1	8.2
2005	9.8	16.1	6.4	7.1	6.5	6.5	7.6	8.6	8.3
2006	9.6	15.2	6.4	7.2	6.7	6.8	7.5	8.6	8.1
2007	9.7	14.6	6.5	..	6.7	6.9	7.4	8.8	..
2008	..	14.6	..	..	6.8	..	..	9.1	..
2009	..	..	..	..	..	..	..	..	..

Table 1.2 **Mid Year Population: national**

Consistent coverage of the United Kingdom — In years (000's rounded), and percentage age distribution

Mid-year	United Kingdom	Great Britain	England and Wales	England	Wales	Scotland	Northern Ireland
Estimates							
1971	55,928	54,888	49,192	45,412	2,740	5,236	1,540
1976	56,216	54,692	49,456	45,660	2,799	5,233	1,524
1981	56,357	54,811	49,634	45,821	2,813	5,180	1,543
1986	56,684	55,110	49,966	47,188	2,811	5,112	1,574
1991	57,439	55,831	50,742	47,875	2,873	5,089	1,607
1992	57,714	56,076	50,996	48,102	2,894	5,062	1,638
1993	57,862	56,218	51,116	48,229	2,887	5,102	1,644
1994	58,025	56,376	51,272	48,383	2,889	5,104	1,649
1995	58,164	56,503	51,410	48,519	2,891	5,092	1,662
1996	58,314	56,643	51,560	48,665	2,895	5,083	1,671
1997	58,475	56,797	51,720	48,821	2,900	5,077	1,678
1998	58,634	57,005	51,933	49,033	2,901	5,072	1,629
1999	58,836	57,203	52,140	49,233	2,907	5,063	1,633
2000	59,113	57,424	52,360	49,450	2,910	5,064	1,689
2001	59,314	57,622	52,557	49,643	2,913	5,065	1,692
2002	59,552	57,850	52,782	49,863	2,919	5,067	1,703
2003	59,842	58,132	53,063	50,110	2,953	5,078	1,710
2004	60,235	58,511	53,418	50,456	2,960	5,093	1,724
2005	60,594	58,843	53,726	50,754	2,972	5,117	1,742
2006	60,998	59,227	54,082	51,106	2,975	5,144	1,756
2007	61,398	59,623	54,455	51,465	2,990	5,169	1,775
2008 by age group (percentages)							
0–4	6.0	6.0	6.1	6.1	5.8	5.5	6.7
5–15	12.7	12.7	12.7	12.7	12.9	12.2	14.7
16–44	39.9	39.9	40.0	40.1	38.3	39.0	41.0
45–64/65F	22.1	22.1	22.0	22.0	22.9	23.6	20.9
65/66–74	11.4	11.5	11.4	11.3	12.8	12.1	10.3
75 and over	7.8	7.8	7.8	7.8	8.8	7.6	6.4
Projections[1]							
2011	62,943	60,834	55,801	52,577	3,024	5,233	1,815
2016	64,773	62,900	57,578	54,472	3,104	5,324	1,874
2021	66,952	65,031	59,820	56,433	3,187	5,411	1,927
2026	69,051	67,080	61,597	58,334	3,263	5,483	1,971
2031	70,933	68,929	63,397	60,071	3,326	5,532	2,005
2031 by age group (percentages)							
0–4	5.6	5.6	5.6	5.7	5.2	4.9	5.6
5–15	12.4	12.4	12.5	12.5	12.1	11.5	13.3
16–44	36.4	36.4	36.5	36.7	34.2	34.6	35.4
45–64/65	23.3	23.3	23.2	23.2	23.1	24.3	24.1
65/66–74	10.6	10.6	10.5	10.4	11.7	12.2	10.7
75 and over	11.7	11.7	11.7	11.6	13.6	12.5	10.9

Note: This table includes the revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

1 National projections based on mid-2008 population estimates.

2 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes. Between 2024 and 2028, state pension age will increase from 65 years to 66 years for both men and women.

Table 1.3 **Population: subnational**

Government Office Regions of England — Numbers (thousands) and percentage age distribution

Mid-year	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West
Estimates									
1971	2,679	7,108	4,902	3,652	5,146	4,454	7,529	6,830	4,112
1976	2,671	7,043	4,924	3,774	5,178	4,672	7,089	7,029	4,280
1981	2,636	6,940	4,918	3,853	5,187	4,854	6,806	7,245	4,381
1986	2,594	6,833	4,884	3,908	5,180	4,999	6,774	7,468	4,548
1991	2,587	6,843	4,936	4,011	5,230	5,121	6,829	7,629	4,688
1993	2,594	6,847	4,954	4,056	5,246	5,154	6,844	7,673	4,734
1994	2,589	6,839	4,960	4,072	5,249	5,178	6,874	7,712	4,757
1995	2,583	6,828	4,961	4,092	5,257	5,206	6,913	7,763	4,782
1996	2,576	6,810	4,961	4,108	5,263	5,233	6,974	7,800	4,793
1997	2,568	6,794	4,958	4,120	5,262	5,267	7,015	7,853	4,827
1998	2,561	6,792	4,958	4,133	5,271	5,302	7,065	7,889	4,849
1999	2,550	6,773	4,956	4,152	5,272	5,339	7,154	7,955	4,881
2000	2,543	6,774	4,959	4,168	5,270	5,375	7,237	7,991	4,917
2001	2,540	6,773	4,977	4,190	5,281	5,400	7,322	8,023	4,943
2002	2,540	6,777	5,002	4,222	5,294	5,430	7,369	8,043	4,972
2003	2,540	6,799	5,029	4,254	5,310	5,468	7,380	8,080	5,003
2004	2,541	6,819	5,067	4,292	5,324	5,500	7,413	8,115	5,040
2005	2,548	6,839	5,111	4,327	5,347	5,551	7,485	8,173	5,085
2006	2,553	6,852	5,146	4,363	5,362	5,593	7,547	8,224	5,124
2007	2,560	6,864	5,182	4,397	5,378	5,649	7,602	8,296	5,178
2008	2,571	6,874	5,217	4,429	5,408	5,717	7,668	8,369	5,210
2008 by age group **(percentages)**									
0–4	*5.6*	*6.0*	*5.9*	*5.8*	*6.2*	*6.0*	*7.2*	*5.9*	*5.4*
5–15	*12.3*	*12.9*	*12.7*	*12.6*	*13.2*	*13.0*	*12.1*	*13.0*	*12.3*
16–44	*38.7*	*39.2*	*40.2*	*39.1*	*38.9*	*38.4*	*48.1*	*38.6*	*36.8*
45–64M/59F	*23.3*	*22.4*	*22.0*	*22.7*	*22.0*	*22.4*	*18.8*	*22.6*	*23.0*
65M/60F–74	*12.0*	*11.8*	*11.5*	*11.9*	*11.8*	*11.9*	*8.1*	*11.6*	*13.0*
75 and over	*8.0*	*7.7*	*7.7*	*7.9*	*7.9*	*8.3*	*5.7*	*8.3*	*9.5*
Projections[1]									
2006	2,556	6,853	5,142	4,364	5,367	5,607	7,512	8,238	5,124
2011	2,594	7,014	5,377	4,591	5,506	5,890	7,817	8,550	5,368
2016	2,638	7,193	5,621	4,825	5,662	6,179	8,114	8,871	5,620
2021	2,685	7,377	5,866	5,060	5,824	6,471	8,390	9,202	5,882
2026	2,730	7,546	6,101	5,286	5,977	6,747	8,633	9,523	6,139
2031	2,769	7,696	6,319	5,491	6,114	6,997	8,858	9,814	6,374
2031 by age group **(percentages)**									
0–4	*5.2*	*5.5*	*5.6*	*5.3*	*5.9*	*5.5*	*6.7*	*5.5*	*5.0*
5–15	*12.1*	*12.6*	*12.5*	*12.3*	*13.2*	*12.6*	*12.6*	*12.7*	*11.8*
16–44	*35.6*	*36.3*	*37.7*	*35.6*	*35.7*	*34.9*	*43.7*	*35.1*	*33.9*
45–64[2]	*23.0*	*23.2*	*23.0*	*23.8*	*22.8*	*23.7*	*22.9*	*23.6*	*23.7*
65–74[2]	*11.7*	*10.9*	*10.2*	*11.0*	*10.5*	*10.9*	*7.4*	*10.8*	*11.8*
75 and over	*12.4*	*11.5*	*10.9*	*12.0*	*11.9*	*12.4*	*6.7*	*12.4*	*13.9*

Note: This table includes the revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

1 These projections are based on the 2006 population estimates and are consistent with the 2006-based national projections produced by the Office for National Statistics.

2 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes. Between 2024 and 2026 state pension age will increase from 65 years to 66 years for both men and women.

Table 1.4 Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F [1]	65M/60F [1] and over
United Kingdom																
Persons																
1981	56,357	730	2,726	8,147	9,019	8,010	6,774	9,540	2,935	5,195	2,677	..	..	12,543	33,780	10,035
1986	56,684	748	2,886	7,143	9,200	8,007	7,711	9,212	3,069	5,020	2,971	716	..	11,645	34,725	10,313
1991	57,439	790	3,077	7,141	8,168	8,898	7,918	9,500	2,888	5,067	3,119	626	248	11,685	35,197	10,557
1996	58,164	719	3,019	7,544	7,231	9,131	7,958	10,553	2,785	5,066	3,129	711	317	12,018	35,498	10,649
2001	59,113	663	2,819	7,624	7,261	8,475	8,846	11,168	2,884	4,947	3,296	753	377	11,863	36,406	10,845
2002	59,319	661	2,752	7,602	7,404	8,261	9,003	11,306	2,892	4,967	3,344	738	388	11,783	36,620	10,915
2003	59,552	680	2,704	7,544	7,579	8,078	9,105	11,410	2,949	5,000	3,399	706	399	11,716	36,824	11,012
2004	59,842	705	2,685	7,473	7,745	7,948	9,185	11,506	3,027	5,028	3,431	702	409	11,641	37,083	11,118
2005	60,235	716	2,712	7,370	7,891	7,931	9,245	11,616	3,114	5,046	3,420	755	419	11,585	37,419	11,232
2006	60,584	732	2,764	7,238	8,026	7,892	9,260	11,744	3,240	5,029	3,416	820	423	11,533	37,708	11,344
2007	60,986	756	2,838	7,126	8,161	7,864	9,246	11,730	3,485	5,058	3,424	873	425	11,507	37,916	11,563
2008	61,398	788	2,912	7,051	8,220	7,907	9,149	11,797	3,641	5,157	3,441	918	417	11,514	38,090	11,794
Males																
1981	27,412	374	1,400	4,184	4,596	4,035	3,409	4,711	1,376	2,264	922	..	..	6,439	17,646	3,327
1986	27,542	384	1,478	3,664	4,663	4,022	3,864	4,572	1,463	2,206	1,060	166	..	5,968	18,142	3,432
1991	27,909	403	1,572	3,655	4,146	4,432	3,949	4,732	1,390	2,272	1,146	166	46	5,976	18,303	3,630
1996	28,287	369	1,547	3,857	3,652	4,540	3,954	5,244	1,360	2,311	1,187	201	65	6,148	18,375	3,764
2001	28,832	338	1,445	3,906	3,672	4,215	4,382	5,534	1,412	2,308	1,308	227	85	6,077	18,827	3,928
2002	28,961	338	1,407	3,896	3,760	4,113	4,461	5,593	1,414	2,325	1,338	226	89	6,036	18,947	3,978
2003	29,104	349	1,383	3,867	3,858	4,022	4,513	5,644	1,440	2,346	1,369	219	94	6,004	19,072	4,028
2004	29,274	362	1,376	3,831	3,956	3,959	4,545	5,690	1,479	2,365	1,392	223	98	5,969	19,227	4,078
2005	29,493	367	1,389	3,780	4,031	3,951	4,580	5,744	1,523	2,380	1,400	247	103	5,939	19,424	4,130
2006	29,689	374	1,416	3,707	4,110	3,939	4,584	5,803	1,585	2,379	1,413	273	106	5,909	19,609	4,171
2007	29,918	388	1,454	3,646	4,195	3,938	4,575	5,785	1,703	2,398	1,432	295	108	5,893	19,792	4,233
2008	30,154	403	1,492	3,607	4,216	3,986	4,533	5,814	1,780	2,449	1,452	313	108	5,894	19,938	4,323
Females																
1981	28,946	356	1,327	3,963	4,423	3,975	3,365	4,829	1,559	2,931	1,756	..	..	6,104	16,134	6,708
1986	29,142	364	1,408	3,480	4,538	3,985	3,847	4,639	1,606	2,814	1,911	550	..	5,678	16,583	6,881
1991	29,530	387	1,505	3,487	4,021	4,466	3,968	4,769	1,498	2,795	1,972	460	202	5,709	16,894	6,927
1996	29,877	350	1,472	3,687	3,579	4,591	4,005	5,309	1,426	2,755	1,942	509	252	5,870	17,123	6,885
2001	30,281	324	1,375	3,718	3,589	4,260	4,465	5,634	1,473	2,640	1,987	526	292	5,786	17,579	6,917
2002	30,358	323	1,345	3,706	3,644	4,149	4,542	5,713	1,478	2,642	2,006	513	299	5,748	17,673	6,937
2003	30,448	331	1,321	3,677	3,721	4,056	4,592	5,766	1,509	2,654	2,029	487	305	5,712	17,751	6,984
2004	30,568	343	1,309	3,641	3,789	3,990	4,640	5,816	1,548	2,663	2,040	479	310	5,673	17,855	7,040
2005	30,742	349	1,323	3,590	3,860	3,981	4,665	5,872	1,591	2,666	2,020	509	316	5,645	17,995	7,102
2006	30,895	357	1,349	3,531	3,916	3,953	4,676	5,941	1,656	2,650	2,003	547	317	5,624	18,099	7,172
2007	31,068	368	1,383	3,480	3,966	3,926	4,671	5,945	1,782	2,660	1,992	578	317	5,614	18,124	7,330
2008	31,244	385	1,420	3,444	4,004	3,921	4,616	5,983	1,861	2,708	1,988	605	309	5,620	18,153	7,472
England and Wales																
Persons																
1981	49,634	634	2,372	7,085	7,873	7,086	5,996	8,433	2,607	4,619	2,388	383	157	10,910	29,796	8,928
1986	49,999	654	2,522	6,226	8,061	7,052	6,856	8,136	2,725	4,470	2,655	461	182	10,161	30,647	9,190
1991	50,748	698	2,713	6,248	7,165	7,862	7,022	8,407	2,553	4,506	2,790	561	223	10,247	31,100	9,400
1996	51,410	637	2,668	6,636	6,336	8,076	7,017	9,363	2,457	4,496	2,801	639	285	10,584	31,353	9,474
2001	52,360	589	2,502	6,740	6,387	7,536	7,816	9,898	2,549	4,377	2,947	677	340	10,495	32,226	9,639
2002	52,567	588	2,444	6,727	6,521	7,354	7,964	10,016	2,555	4,394	2,989	664	351	10,435	32,433	9,699
2003	52,792	607	2,403	6,680	6,685	7,198	8,059	10,102	2,606	4,422	3,037	634	361	10,385	32,623	9,784
2004	53,053	629	2,388	6,616	6,842	7,084	8,133	10,176	2,675	4,445	3,063	632	370	10,323	32,856	9,875
2005	53,416	639	2,414	6,525	6,979	7,073	8,193	10,264	2,757	4,461	3,052	680	378	10,274	33,164	9,978
2006	53,726	653	2,462	6,408	7,101	7,036	8,212	10,369	2,874	4,444	3,045	740	382	10,231	33,418	10,077
2007	54,082	675	2,528	6,311	7,224	7,003	8,207	10,349	3,094	4,469	3,050	787	385	10,210	33,600	10,272
2008	54,455	703	2,595	6,247	7,279	7,038	8,126	10,402	3,238	4,558	3,063	829	378	10,219	33,754	10,482
Males																
1981	24,160	324	1,218	3,639	4,011	3,569	3,024	4,178	1,227	2,020	825	94	32	5,601	15,589	2,970
1986	24,311	335	1,292	3,194	4,083	3,542	3,438	4,053	1,302	1,972	951	115	35	5,208	16,031	3,072
1991	24,681	356	1,385	3,198	3,638	3,920	3,504	4,199	1,234	2,027	1,029	150	42	5,240	16,193	3,248
1996	25,030	327	1,368	3,393	3,202	4,020	3,489	4,659	1,205	2,059	1,067	182	59	5,416	16,247	3,367
2001	25,574	301	1,281	3,453	3,231	3,758	3,881	4,907	1,252	2,052	1,175	206	77	5,376	16,688	3,510
2002	25,700	301	1,249	3,448	3,312	2,670	3,956	4,957	1,253	2,066	1,202	204	81	5,345	16,802	3,554
2003	25,837	312	1,229	3,424	3,402	3,592	4,006	5,000	1,276	2,084	1,229	198	85	5,322	16,918	3,597
2004	25,991	323	1,224	3,393	3,496	3,536	4,035	5,036	1,310	2,100	1,248	202	89	5,293	17,058	3,640
2005	26,193	327	1,236	3,347	3,566	3,529	4,071	5,080	1,351	2,113	1,256	224	94	5,268	17,239	3,685
2006	26,366	334	1,261	3,282	3,638	3,515	4,077	5,129	1,408	2,111	1,267	248	96	5,243	17,402	3,722
2007	26,570	346	1,296	3,229	3,716	3,511	4,074	5,109	1,513	2,127	1,283	268	99	5,229	17,566	3,776
2008	26,783	360	1,329	3,195	3,736	3,552	4,039	5,133	1,584	2,172	1,300	285	99	5,231	17,696	3,856
Females																
1981	25,474	310	1,154	3,446	3,863	3,517	2,972	4,255	1,380	2,599	1,564	289	126	5,309	14,207	5,958
1986	25,687	319	1,231	3,032	3,978	3,509	3,418	4,083	1,422	2,498	1,704	346	148	4,953	14,616	6,118
1991	26,067	342	1,328	3,050	3,527	3,943	3,517	4,208	1,319	2,479	1,761	411	181	5,007	14,908	6,152
1996	26,381	310	1,300	3,243	3,134	4,056	3,528	4,704	1,252	2,437	1,734	457	227	5,168	15,106	6,107
2001	26,786	288	1,220	3,287	3,156	3,778	3,935	4,992	1,297	2,326	1,771	471	263	5,119	15,538	6,129
2002	26,867	287	1,195	3,279	3,209	3,684	4,007	5,059	1,302	2,328	1,787	460	270	5,090	15,631	6,146
2003	26,955	295	1,174	3,256	3,283	3,606	4,053	5,102	1,330	2,338	1,808	436	275	5,063	15,705	6,187
2004	27,062	306	1,164	3,223	3,346	3,549	4,098	5,141	1,365	2,345	1,815	430	280	5,029	15,798	6,235
2005	27,224	312	1,178	3,179	3,413	3,545	4,122	5,184	1,406	2,348	1,796	457	285	5,006	15,925	6,292
2006	27,359	319	1,201	3,126	3,463	3,521	4,134	5,240	1,466	2,333	1,778	492	286	4,989	16,015	6,356
2007	27,512	329	1,233	3,082	3,508	3,492	4,132	5,240	1,581	2,342	1,767	520	286	4,982	16,034	6,497
2008	27,672	343	1,266	3,052	3,543	3,486	4,087	5,269	1,654	2,386	1,762	544	279	4,989	16,058	6,626

Note: This table includes the revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Table 1.4 continued **Population: age and sex**

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F [1]	65M/60F [1] and over
England																
Persons																
1981	46,821	598	2,235	6,678	7,440	6,703	5,663	7,948	2,449	4,347	2,249	362	149	10,285	28,133	8,403
1986	47,188	618	2,380	5,869	7,623	6,682	6,478	7,672	2,559	4,199	2,501	435	172	9,583	28,962	8,643
1991	47,875	660	2,560	5,885	6,772	7,460	6,633	7,920	2,399	4,222	2,626	529	210	9,658	29,390	8,827
1996	48,519	603	2,523	6,255	5,985	7,667	6,638	8,822	2,310	4,217	2,631	602	269	9,985	29,639	8,895
2001	49,450	558	2,366	6,359	6,032	7,171	7,407	9,327	2,395	4,113	2,764	638	321	9,908	30,487	9,055
2002	49,649	558	2,312	6,347	6,157	7,000	7,550	9,438	2,399	4,129	2,803	625	331	9,854	30,685	9,110
2003	49,863	576	2,274	6,303	6,311	6,853	7,642	9,520	2,445	4,155	2,850	596	340	9,808	30,866	9,188
2004	50,110	597	2,261	6,243	6,459	6,746	7,713	9,590	2,509	4,175	2,876	593	349	9,751	31,085	9,273
2005	50,466	607	2,288	6,158	6,591	6,738	7,772	9,675	2,586	4,190	2,865	638	357	9,709	31,387	9,370
2006	50,764	620	2,335	6,048	6,705	6,704	7,791	9,777	2,697	4,171	2,860	695	360	9,670	31,631	9,463
2007	51,106	641	2,398	5,958	6,819	6,674	7,789	9,760	2,906	4,193	2,866	739	363	9,654	31,807	9,646
2008	51,465	667	2,462	5,901	6,870	6,707	7,715	9,813	3,041	4,276	2,878	779	356	9,666	31,956	9,842
Males																
1981	22,795	306	1,147	3,430	3,790	3,377	2,856	3,938	1,154	1,902	777	89	30	5,280	14,717	2,798
1986	22,949	317	1,219	3,010	3,862	3,357	3,249	3,822	1,224	1,853	897	108	33	4,911	15,147	2,891
1991	23,291	336	1,307	3,011	3,439	3,721	3,311	3,957	1,159	1,900	970	141	39	4,938	15,302	3,050
1996	23,629	309	1,294	3,198	3,023	3,818	3,302	4,390	1,133	1,932	1,003	172	55	5,110	15,358	3,161
2001	24,166	285	1,212	3,257	3,053	3,580	3,681	4,624	1,176	1,928	1,103	194	73	5,075	15,793	3,298
2002	24,287	286	1,181	3,252	3,129	3,498	3,754	4,672	1,176	1,941	1,128	193	77	5,046	15,903	3,338
2003	24,415	296	1,163	3,231	3,213	3,423	3,802	4,713	1,197	1,958	1,154	186	80	5,026	16,011	3,378
2004	24,561	306	1,159	3,201	3,301	3,369	3,830	4,747	1,228	1,972	1,172	190	84	5,000	16,142	3,419
2005	24,756	310	1,171	3,158	3,368	3,363	3,866	4,790	1,267	1,983	1,179	210	88	4,977	16,317	3,461
2006	24,924	317	1,196	3,098	3,436	3,351	3,873	4,839	1,321	1,981	1,190	233	91	4,955	16,475	3,494
2007	25,119	329	1,229	3,048	3,509	3,348	3,871	4,820	1,421	1,995	1,205	251	93	4,943	16,631	3,544
2008	25,323	342	1,261	3,018	3,526	3,387	3,839	4,844	1,487	2,036	1,222	268	93	4,947	16,757	3,619
Females																
1981	24,026	292	1,088	3,248	3,650	3,327	2,807	4,009	1,295	2,445	1,472	273	119	5,004	13,416	5,605
1986	24,239	301	1,161	2,859	3,761	3,325	3,229	3,850	1,335	2,346	1,604	326	140	4,672	13,815	5,752
1991	24,584	324	1,253	2,873	3,333	3,739	3,322	3,964	1,239	2,323	1,656	388	171	4,720	14,088	5,777
1996	24,890	293	1,229	3,056	2,961	3,849	3,336	4,432	1,177	2,286	1,628	430	214	4,876	14,281	5,734
2001	25,284	273	1,154	3,102	2,979	3,591	3,726	4,702	1,219	2,185	1,661	444	248	4,834	14,694	5,757
2002	25,362	273	1,131	3,094	3,028	3,502	3,796	4,766	1,222	2,187	1,675	433	254	4,807	14,783	5,772
2003	25,448	280	1,111	3,072	3,098	3,430	3,839	4,807	1,248	2,197	1,696	410	260	4,782	14,856	5,810
2004	25,549	291	1,103	3,042	3,158	3,376	3,882	4,843	1,281	2,204	1,703	403	264	4,752	14,943	5,855
2005	25,710	296	1,116	3,000	3,223	3,375	3,906	4,885	1,319	2,206	1,686	428	269	4,731	15,070	5,909
2006	25,840	303	1,139	2,950	3,269	3,353	3,918	4,939	1,376	2,191	1,670	461	270	4,716	15,156	5,968
2007	25,987	312	1,170	2,910	3,311	3,326	3,918	4,939	1,485	2,198	1,660	488	270	4,711	15,175	6,101
2008	26,141	326	1,202	2,883	3,344	3,320	3,876	4,969	1,554	2,239	1,656	511	263	4,719	15,199	6,223
Wales																
Persons																
1981	2,813	36	136	407	434	383	333	485	158	272	139	21	8	626	1,663	525
1986	2,811	37	143	357	438	369	378	464	166	271	154	26	10	578	1,686	547
1991	2,873	38	153	363	393	402	389	486	154	284	164	32	13	589	1,711	573
1996	2,891	34	146	381	352	409	379	541	147	279	170	37	17	598	1,714	578
2001	2,910	32	136	382	356	365	409	572	154	264	183	39	20	587	1,739	584
2002	2,918	30	132	380	364	354	414	578	156	265	185	39	20	582	1,748	589
2003	2,929	31	129	377	374	345	417	582	161	268	187	38	21	577	1,757	595
2004	2,944	32	127	373	383	339	421	586	166	270	188	39	21	572	1,770	602
2005	2,950	32	126	367	388	336	421	588	171	271	186	42	21	566	1,777	608
2006	2,962	33	127	360	396	332	420	592	177	272	186	45	22	561	1,786	615
2007	2,976	34	130	353	405	329	417	589	188	276	185	48	22	556	1,793	627
2008	2,990	36	133	346	410	330	411	589	197	282	185	50	22	553	1,798	639
Males																
1981	1,365	18	70	209	221	193	168	240	73	118	48	5	2	321	871	173
1986	1,362	19	73	184	221	186	190	231	79	119	54	7	2	297	885	181
1991	1,391	20	78	186	199	199	194	242	74	128	60	8	2	302	891	198
1996	1,401	17	74	195	179	203	187	269	72	128	64	10	3	306	890	206
2001	1,409	16	69	196	179	178	200	283	75	124	73	12	4	301	895	212
2002	1,413	16	68	195	183	172	202	285	77	125	74	12	5	299	899	215
2003	1,422	16	66	194	190	168	204	287	79	127	75	11	5	296	907	218
2004	1,431	16	66	191	195	166	205	288	82	128	76	12	5	294	916	221
2005	1,437	17	65	188	198	166	205	289	84	129	76	13	5	291	922	224
2006	1,442	17	65	185	202	164	204	291	87	130	77	15	5	288	927	227
2007	1,451	17	67	181	208	163	203	289	93	132	78	16	6	286	935	231
2008	1,459	18	68	178	210	165	200	288	97	135	78	17	6	284	939	236
Females																
1981	1,448	18	66	199	213	190	165	246	85	154	91	16	6	305	791	352
1986	1,449	18	70	173	217	184	188	233	87	152	100	20	8	282	801	366
1991	1,482	19	75	177	194	203	195	244	80	156	104	24	10	288	820	375
1996	1,490	16	71	186	173	206	192	272	75	151	106	27	13	293	825	373
2001	1,502	15	66	186	177	187	209	289	78	141	110	27	15	286	844	372
2002	1,505	15	65	185	181	182	212	293	80	140	111	27	16	283	848	374
2003	1,507	15	63	183	184	176	214	295	82	141	112	27	16	280	850	377
2004	1,513	15	62	182	188	172	216	298	85	142	112	26	16	278	855	380
2005	1,513	16	61	179	190	170	216	299	87	142	110	28	16	275	855	383
2006	1,520	16	62	176	194	168	216	301	90	143	108	30	16	273	859	387
2007	1,525	16	63	172	197	166	215	300	96	144	107	32	16	271	858	395
2008	1,531	17	65	168	200	166	211	301	100	147	107	33	16	269	859	403

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Table 1.4 continued Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F [1]	65M/60F and over
Scotland																
Persons																
1981	5,180	69	249	780	875	724	603	880	260	460	232	35	14	1,188	3,110	882
1986	5,112	66	257	656	863	739	665	849	273	435	252	42	15	1,061	3,161	890
1991	5,083	66	258	634	746	795	696	853	265	441	259	51	19	1,021	3,151	912
1996	5,092	59	252	643	651	798	722	925	259	448	256	57	24	1,019	3,151	922
2001	5,064	52	224	629	633	696	782	979	262	447	272	59	29	970	3,150	944
2002	5,055	51	217	622	639	669	788	993	262	449	276	58	30	955	3,150	950
2003	5,057	52	212	614	648	648	793	1,008	265	452	281	55	31	943	3,156	958
2004	5,078	54	210	609	653	635	796	1,025	270	455	286	54	31	935	3,175	968
2005	5,095	55	211	600	659	629	794	1,042	273	457	286	59	32	929	3,191	975
2006	5,117	55	213	588	668	627	790	1,058	280	456	287	63	32	922	3,213	983
2007	5,144	57	218	576	676	629	781	1,060	301	457	290	67	32	917	3,227	1,001
2008	5,169	60	223	567	681	634	766	1,068	312	463	293	69	31	914	3,238	1,017
Males																
1981	2,495	35	128	400	445	364	298	424	118	194	77	8	3	610	1,603	282
1986	2,462	34	131	336	438	371	331	410	127	184	86	10	3	543	1,636	283
1991	2,445	34	132	324	377	394	345	415	124	192	91	13	3	522	1,623	299
1996	2,447	30	128	328	327	392	355	454	122	198	93	15	5	521	1,616	310
2001	2,434	26	115	322	319	337	379	483	125	200	103	17	6	497	1,610	327
2002	2,432	26	111	319	324	325	382	490	125	202	106	17	7	489	1,612	331
2003	2,435	26	108	314	329	315	383	496	126	204	108	16	7	483	1,616	336
2004	2,446	28	107	312	332	310	384	503	129	207	111	16	7	479	1,627	341
2005	2,456	28	107	307	335	309	382	511	131	208	112	18	7	476	1,635	345
2006	2,469	28	109	301	340	310	380	517	135	208	113	20	8	472	1,649	349
2007	2,486	29	112	295	345	313	375	517	146	210	116	21	8	469	1,662	354
2008	2,500	30	115	290	348	317	368	520	152	213	118	22	8	468	1,672	361
Females																
1981	2,685	33	121	380	430	359	305	456	142	265	155	27	11	579	1,506	600
1986	2,649	32	126	320	424	368	334	439	146	250	166	32	12	518	1,525	606
1991	2,639	32	126	309	369	402	351	437	141	249	168	38	16	499	1,528	612
1996	2,645	28	123	315	324	406	367	470	137	250	164	42	20	498	1,535	612
2001	2,630	26	109	307	314	359	403	496	137	246	169	43	23	473	1,540	617
2002	2,623	25	106	303	315	344	406	504	137	247	171	41	23	466	1,538	619
2003	2,623	25	104	300	318	332	410	512	139	248	173	39	24	460	1,540	622
2004	2,632	26	103	297	321	325	412	521	141	248	175	38	24	457	1,549	627
2005	2,639	26	103	293	324	320	411	531	142	249	174	41	25	454	1,556	630
2006	2,648	27	104	287	328	317	410	540	145	247	174	43	25	450	1,564	634
2007	2,659	28	106	281	332	316	406	542	155	247	174	45	24	448	1,564	646
2008	2,668	29	109	277	334	317	398	548	160	250	175	47	24	446	1,566	656
Northern Ireland																
Persons																
1981	1,543	27	106	282	271	200	175	227	68	116	57	..	..	444	874	224
1986	1,574	28	107	261	277	217	190	227	71	115	64	16	..	423	917	234
1991	1,607	26	106	260	256	240	200	241	70	121	69	14	6	417	945	246
1996	1,662	24	99	266	244	257	220	266	70	123	72	15	7	415	993	253
2001	1,689	22	93	255	240	243	248	290	74	123	77	16	7	397	1,030	262
2002	1,697	22	91	253	243	238	251	296	75	125	79	16	7	393	1,037	266
2003	1,703	22	89	251	246	233	254	301	78	126	81	16	8	388	1,044	271
2004	1,710	22	87	248	250	229	256	305	81	127	82	16	8	383	1,052	275
2005	1,724	23	88	245	253	228	257	310	84	128	83	17	8	381	1,064	280
2006	1,742	23	89	242	258	229	259	316	87	130	83	18	8	380	1,077	284
2007	1,759	24	91	239	260	231	259	321	90	132	84	19	8	380	1,089	290
2008	1,775	26	94	237	260	235	257	327	91	136	85	20	9	381	1,098	296
Males																
1981	757	14	54	145	140	102	87	109	32	50	21	..	..	228	454	75
1986	768	14	55	134	142	109	95	110	33	50	23	4	..	217	474	77
1991	783	13	54	133	131	119	100	118	32	53	26	4	1	213	487	83
1996	810	12	51	136	124	128	109	131	33	54	27	4	1	212	511	87
2001	824	11	48	131	122	120	122	144	35	56	30	5	2	204	529	92
2002	829	11	47	130	124	117	123	147	36	56	31	5	2	202	534	94
2003	833	11	46	129	126	115	124	149	38	57	31	5	2	199	538	95
2004	836	11	45	127	128	113	125	151	39	58	32	5	2	197	542	97
2005	844	12	45	126	130	113	126	153	41	59	32	5	2	196	550	99
2006	853	12	46	124	132	113	127	156	42	60	33	6	2	195	558	101
2007	862	13	47	123	134	114	127	158	44	61	33	6	2	195	564	103
2008	871	13	48	121	133	117	127	161	44	63	34	6	2	196	569	106
Females																
1981	786	13	52	137	130	98	88	118	37	66	37	..	..	216	420	150
1986	805	13	52	127	135	107	96	118	38	65	41	12	..	206	442	157
1991	824	13	52	127	125	121	100	123	38	67	44	10	4	203	458	163
1996	851	11	49	130	120	129	110	135	37	69	45	11	6	203	482	167
2001	865	10	45	124	119	123	126	146	38	68	47	11	6	193	501	170
2002	868	11	44	124	119	120	128	149	39	68	48	11	6	191	504	173
2003	870	10	43	122	120	118	129	152	40	68	49	11	6	189	506	175
2004	874	11	42	121	122	116	130	154	42	69	50	11	6	187	509	179
2005	880	11	43	119	124	115	131	157	43	69	50	11	6	186	514	181
2006	888	11	43	118	126	115	132	160	45	69	51	12	6	185	520	183
2007	897	12	44	116	127	117	132	163	46	70	51	13	6	185	526	187
2008	904	12	46	115	127	118	131	165	47	72	51	13	6	186	529	190

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Table 1.5 Population: age, sex and legal marital status

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
Aged 16 and over											
1971	36,818	4,173	12,522	187	682	17,563	3,583	12,566	296	2,810	19,255
1976	37,486	4,369	12,511	376	686	17,941	3,597	12,538	533	2,877	19,545
1981	38,724	5,013	12,238	611	698	18,559	4,114	12,284	828	2,939	20,165
1986	39,837	5,625	11,867	917	695	19,103	4,617	12,000	1,165	2,953	20,734
1991	40,501	5,891	11,636	1,187	727	19,441	4,817	11,833	1,459	2,951	21,060
1996	40,827	6,225	11,310	1,346	733	19,614	5,168	11,433	1,730	2,881	21,212
1999	41,325	6,582	11,143	1,433	732	19,890	5,526	11,235	1,875	2,800	21,435
2000	41,569	6,721	11,113	1,456	731	20,022	5,650	11,199	1,927	2,772	21,547
2001	41,865	6,894	11,090	1,482	733	20,198	5,798	11,150	1,975	2,745	21,667
2002	42,135	7,062	11,043	1,524	730	20,358	5,944	11,094	2,031	2,709	21,777
2003	42,409	7,226	10,995	1,571	726	20,517	6,102	11,033	2,087	2,669	21,892
2004	42,731	7,419	10,941	1,617	722	20,700	6,279	10,980	2,144	2,628	22,031
2005	43,141	7,623	10,923	1,662	719	20,927	6,486	10,943	2,198	2,588	22,214
2006	43,494	7,833	10,881	1,696	716	21,126	6,683	10,893	2,244	2,548	22,367
2007	43,860	8,049	10,851	1,724	715	21,338	6,871	10,851	2,289	2,511	22,521
2008	44,217	8,238	10,849	1,746	713	21,546	7,057	10,812	2,326	2,477	22,671
16–19											
1971	2,666	1,327	34	0	0	1,362	1,163	142	0	0	1,305
1976	2,901	1,454	28	0	0	1,482	1,289	129	0	0	1,419
1981	3,310	1,675	20	0	0	1,694	1,523	93	0	0	1,616
1986	3,131	1,587	10	0	0	1,596	1,484	49	1	0	1,535
1991	2,665	1,358	8	0	0	1,366	1,267	32	0	0	1,300
1996	2,402	1,209	6	0	0	1,216	1,164	21	0	0	1,186
1999	2,543	1,280	6	1	1	1,288	1,234	20	1	1	1,255
2000	2,523	1,276	6	1	1	1,283	1,221	18	1	1	1,240
2001	2,567	1,304	5	1	1	1,312	1,237	16	1	1	1,255
2002	2,630	1,351	5	1	1	1,357	1,258	13	1	1	1,273
2003	2,703	1,392	4	1	1	1,397	1,293	12	0	1	1,306
2004	2,771	1,424	3	0	0	1,428	1,331	11	0	0	1,343
2005	2,801	1,434	2	0	0	1,436	1,355	10	0	0	1,365
2006	2,829	1,457	2	0	0	1,459	1,363	7	0	0	1,370
2007	2,861	1,473	2	0	0	1,475	1,379	7	0	0	1,386
2008	2,859	1,467	2	0	0	1,469	1,383	7	0	0	1,390
20–24											
1971	3,773	1,211	689	3	0	1,904	745	1,113	9	2	1,869
1976	3,395	1,167	557	4	0	1,728	725	925	16	2	1,667
1981	3,744	1,420	466	10	1	1,896	1,007	811	27	2	1,847
1986	4,171	1,768	317	14	0	2,099	1,383	657	32	1	2,072
1991	3,911	1,717	242	12	0	1,971	1,421	490	29	1	1,941
1996	3,291	1,538	117	3	0	1,658	1,361	260	11	1	1,633
1999	3,047	1,449	78	2	0	1,530	1,320	188	8	1	1,517
2000	3,088	1,470	74	3	0	1,548	1,352	180	8	1	1,540
2001	3,157	1,501	74	3	1	1,579	1,390	178	8	1	1,578
2002	3,212	1,530	73	3	1	1,606	1,427	170	8	1	1,606
2003	3,281	1,568	74	3	1	1,645	1,459	166	8	1	1,636
2004	3,376	1,632	75	3	1	1,712	1,491	163	8	2	1,664
2005	3,477	1,693	73	3	1	1,771	1,539	157	8	2	1,706
2006	3,558	1,741	67	3	1	1,812	1,591	146	7	1	1,746
2007	3,661	1,813	64	3	1	1,881	1,637	136	6	1	1,780
2008	3,741	1,855	61	2	1	1,919	1,689	126	6	1	1,822
25–29											
1971	3,267	431	1,206	16	1	1,654	215	1,367	29	4	1,614
1976	3,758	533	1,326	39	2	1,900	267	1,522	65	5	1,859
1981	3,372	588	1,057	54	1	1,700	331	1,247	89	4	1,671
1986	3,713	835	949	79	1	1,863	527	1,207	113	4	1,850
1991	4,154	1,132	856	82	1	2,071	800	1,158	123	2	2,083
1996	3,950	1,273	650	46	1	1,970	977	906	93	3	1,980
1999	3,687	1,304	497	34	1	1,836	1,051	725	72	3	1,851
2000	3,605	1,305	459	31	1	1,796	1,065	677	65	3	1,810
2001	3,487	1,293	420	28	1	1,742	1,059	625	58	3	1,745
2002	3,365	1,277	384	26	1	1,688	1,049	574	52	3	1,676
2003	3,284	1,265	356	24	1	1,647	1,051	536	48	2	1,638
2004	3,280	1,278	339	23	1	1,641	1,078	513	46	2	1,639
2005	3,354	1,320	331	23	1	1,675	1,128	504	45	2	1,679
2006	3,434	1,371	324	22	1	1,718	1,178	490	45	2	1,716
2007	3,526	1,422	326	22	1	1,770	1,223	486	44	2	1,756
2008	3,617	1,486	329	21	1	1,837	1,259	477	42	2	1,780

Table 1.5 continued **Population: age, sex and legal marital status**

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
30–34											
1971	2,897	206	1,244	23	3	1,475	111	1,269	34	8	1,422
1976	3,220	236	1,338	55	3	1,632	118	1,388	75	8	1,588
1981	3,715	318	1,451	97	3	1,869	165	1,544	129	9	1,846
1986	3,338	355	1,197	124	2	1,679	206	1,293	154	6	1,660
1991	3,708	520	1,172	155	2	1,849	335	1,330	189	5	1,859
1996	4,126	776	1,135	138	2	2,050	551	1,316	201	7	2,076
1999	4,113	877	1,043	121	3	2,044	651	1,223	188	7	2,069
2000	4,076	904	1,007	114	2	2,027	679	1,182	181	7	2,049
2001	4,050	934	971	108	2	2,016	711	1,142	174	7	2,033
2002	3,992	951	927	103	2	1,984	739	1,097	166	6	2,009
2003	3,919	964	881	99	2	1,947	760	1,049	158	6	1,972
2004	3,810	967	834	94	2	1,897	768	993	147	5	1,913
2005	3,724	972	793	88	2	1,856	778	948	137	5	1,868
2006	3,606	972	744	81	2	1,799	782	896	124	5	1,808
2007	3,473	962	701	74	1	1,738	777	840	114	4	1,735
2008	3,414	965	678	68	1	1,713	787	804	105	4	1,701
35–44											
1971	5,736	317	2,513	48	13	2,891	201	2,529	66	48	2,845
1976	5,608	286	2,442	104	12	2,843	167	2,427	129	42	2,765
1981	5,996	316	2,519	178	12	3,024	170	2,540	222	41	2,972
1986	6,856	396	2,738	293	12	3,438	213	2,815	350	39	3,418
1991	7,022	477	2,632	384	11	3,504	280	2,760	444	34	3,517
1996	7,017	653	2,426	398	12	3,489	427	2,568	497	36	3,528
1999	7,475	832	2,459	408	13	3,711	577	2,617	533	37	3,763
2000	7,661	899	2,481	410	12	3,802	635	2,640	547	37	3,859
2001	7,816	963	2,494	411	12	3,881	692	2,649	558	36	3,935
2002	7,964	1,027	2,499	420	12	3,957	749	2,653	570	35	4,007
2003	8,058	1,080	2,488	427	12	4,007	801	2,638	579	33	4,051
2004	8,133	1,126	2,466	433	11	4,036	853	2,623	588	32	4,097
2005	8,194	1,173	2,452	436	11	4,073	903	2,597	590	31	4,121
2006	8,213	1,219	2,419	431	11	4,080	955	2,564	585	30	4,134
2007	8,209	1,259	2,385	422	10	4,076	1,004	2,525	574	29	4,132
2008	8,128	1,289	2,333	407	10	4,039	1,044	2,463	555	27	4,090
45–64											
1971	11,887	502	4,995	81	173	5,751	569	4,709	125	733	6,136
1976	11,484	496	4,787	141	160	5,583	462	4,568	188	683	5,901
1981	11,040	480	4,560	218	147	5,405	386	4,358	271	620	5,635
1986	10,860	461	4,422	331	141	5,355	327	4,220	388	570	5,505
1991	10,960	456	4,394	456	127	5,433	292	4,211	521	503	5,527
1996	11,820	528	4,587	628	121	5,864	318	4,466	732	440	5,956
1999	12,198	589	4,627	706	121	6,043	355	4,541	844	415	6,155
2000	12,328	615	4,638	727	121	6,101	372	4,564	881	410	6,227
2001	12,447	644	4,647	747	121	6,159	391	4,578	918	401	6,289
2002	12,573	670	4,647	775	119	6,211	413	4,599	959	391	6,362
2003	12,710	700	4,653	807	118	6,278	437	4,616	999	380	6,432
2004	12,852	734	4,657	840	116	6,347	464	4,630	1,041	370	6,505
2005	13,021	771	4,672	873	115	6,431	496	4,650	1,084	361	6,590
2006	13,243	813	4,703	906	115	6,537	534	4,688	1,130	355	6,706
2007	13,439	857	4,716	935	114	6,621	576	4,719	1,175	347	6,818
2008	13,633	906	4,734	962	113	6,715	624	4,739	1,216	339	6,918
65 and over											
1971	6,592	179	1,840	17	492	2,527	580	1,437	32	2,016	4,065
1976	7,119	197	2,033	33	510	2,773	569	1,579	60	2,138	4,347
1981	7,548	216	2,167	54	534	2,971	533	1,692	90	2,263	4,578
1986	7,768	223	2,234	76	539	3,072	477	1,759	127	2,333	4,696
1991	8,080	231	2,332	99	586	3,248	422	1,853	152	2,405	4,832
1996	8,221	247	2,390	134	597	3,367	369	1,897	196	2,393	4,854
1999	8,262	251	2,431	161	594	3,437	338	1,922	230	2,336	4,825
2000	8,287	252	2,449	171	593	3,466	327	1,938	243	2,313	4,821
2001	8,342	254	2,478	183	595	3,510	318	1,960	259	2,295	4,832
2002	8,398	255	2,509	196	594	3,554	308	1,987	276	2,272	4,844
2003	8,454	257	2,539	209	592	3,597	301	2,017	295	2,245	4,857
2004	8,510	258	2,568	223	591	3,640	293	2,046	314	2,216	4,870
2005	8,571	259	2,599	238	589	3,685	286	2,078	334	2,187	4,885
2006	8,611	260	2,622	252	587	3,722	279	2,102	353	2,155	4,889
2007	8,690	263	2,658	268	587	3,775	274	2,138	375	2,128	4,915
2008	8,825	268	2,713	285	587	3,854	271	2,195	401	2,103	4,971

Table 2.1 Vital statistics summary

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
United Kingdom																		
1976	675.5	12.0	61.1	90	406.0	..	:	:	136.0	..	680.8	12.1	9.79	14.5	6.68	9.9	12.25	18.0
1981	730.7	13.0	91.3	125	397.8	49.4	:	:	157.0	11.3	658.0	11.7	8.16	11.2	4.93	6.7	8.79	12.0
1986	754.8	13.3	154.3	204	393.9	..	:	:	168.3	..	660.7	11.7	7.18	9.5	4.00	5.3	7.31	9.6
1991	792.3	13.8	236.1	298	349.7	..	:	:	173.5	..	646.2	11.2	5.82	7.4	3.46	4.4	6.45	8.1
1996	733.2	12.6	260.4	355	317.5	..	:	:	171.7	..	636.0	10.9	4.50	6.1	3.00	4.1	6.41	8.7
1999	700.0	11.9	271.6	388	301.1	..	:	:	158.8	..	632.1	10.8	4.06	5.8	2.73	3.9	5.80	8.2
2000	679.0	11.5	268.1	395	305.9	..	:	:	154.6	..	608.4	10.3	3.81	5.6	2.63	3.9	5.57	8.2
2001	669.1	11.3	268.0	401	286.1	..	:	:	156.8	..	602.3	10.2	3.69	5.5	2.45	3.7	5.40	8.0
2002	668.8	11.3	271.7	406	293.0	..	:	:	160.7	..	608.0	10.3	3.54	5.3	2.37	3.5	5.59	8.3
2003	695.6	11.7	288.5	415	308.6	..	:	:	166.7	..	612.1	10.3	3.69	5.3	2.51	3.6	5.95	8.5
2004	716.0	12.0	302.6	423	313.6	..	:	:	167.8	..	584.8	9.8	3.66	5.1	2.49	3.5	6.03	8.4
2005	722.5	12.0	310.2	429	286.8	..	1.95[10]	..	155.0	..	583.0	9.7	3.67	5.1	2.52	3.5	5.78	8.0
2006	748.6	12.4	326.8	437	277.6	..	16.11	..	148.2	..	572.2	9.4	3.74	5.0	2.61	3.5	5.94	7.9
2007	772.2	12.7	343.2	444	274.0	..	8.73	..	144.3	..	574.7	9.4	3.74	4.8	2.55	3.3	6.00	7.7
2008	794.4	12.9	360.8	454	270.0[P]	..	7.17	..	136.0	..	579.7	9.4	3.75	4.7	2.56	3.2	6.02	7.5
2009	790.2[P]	12.8[P]	365.8[P]	463[P]	..	..	..	..	..	..	559.6[P]	9.1[P]	3.68[P]	4.6[P]	2.51[P]	3.2[P]	6.04[P]	7.6[P]
2007 March	184.4	12.3	81.9	444	31.2	..	1.69	..	38.9	..	159.3	10.6	0.91	4.9	0.64	3.4	1.47	7.9
June	189.8	12.5	82.6	435	76.6	..	2.37	..	37.2	..	138.0	9.1	0.99	5.2	0.66	3.5	1.53	8.0
Sept	202.8	13.2	90.5	446	117.7	..	2.96	..	36.7	..	129.9	8.4	0.94	4.6	0.63	3.1	1.50	7.4
Dec	195.3	12.7	88.1	451	48.4	..	1.71	..	31.4	..	147.5	9.6	0.90	4.6	0.62	3.2	1.50	7.6
2008 March	195.4	12.8	88.8	455	32.0[P]	..	1.25	..	35.5	..	155.6	10.2	0.95	4.9	0.66	3.4	1.53	7.8
June	198.2	12.9	89.1	449	73.7[P]	..	1.93	..	34.4	..	140.2	9.2	0.88	4.4	0.59	3.0	1.48	7.4
Sept	204.4	13.4	93.3	456	115.0[P]	..	2.46	..	33.9	..	130.3	8.4	0.97	4.7	0.67	3.3	1.47	7.2
Dec	196.4	12.7	89.6	456	50.1[P]	..	1.53	..	32.3	..	153.5	9.9	0.95	4.8	0.64	3.2	1.54	7.8
2009 March	189.8[P]	12.5[P]	87.8[P]	463[P]	30.5[P]	..	0.98[P]	..	..	..	157.9[P]	10.4[P]	0.93[P]	4.9[P]	0.62[P]	3.2[P]	1.49[P]	7.8[P]
June	196.3[P]	12.7[P]	89.2[P]	455[P]	..	..	1.66[P]	..	..	..	131.9[P]	8.6[P]	0.94[P]	4.8[P]	0.63[P]	3.2[P]	1.51[P]	7.7[P]
Sept	202.8[P]	13.0[P]	94.6[P]	466[P]	..	..	2.28[P]	..	..	..	126.4[P]	8.1[P]	0.89[P]	4.4[P]	0.64[P]	3.1[P]	1.54[P]	7.5[P]
Dec	201.3[P]	12.9[P]	94.2[P]	468[P]	..	..	..	..	..	..	143.5[P]	9.2[P]	0.91[P]	4.5[P]	0.63[P]	3.1[P]	1.50[P]	7.4[P]
England and Wales																		
1976	584.3	11.8	53.8	92	358.6	57.7	:	:	126.7	10.1	598.5	12.1	8.34	14.3	5.66	9.7	10.45	17.7
1981	634.5	12.8	81.0	128	352.0	49.6	:	:	145.7	11.9	577.9	11.6	7.02	11.1	4.23	6.7	7.56	11.8
1986	661.0	13.2	141.3	214	347.9	43.6	:	:	153.9	12.9	581.2	11.6	6.31	9.6	3.49	5.3	6.37	9.6
1991	699.2	13.8	211.3	302	306.8	36.0	:	:	158.7	13.5	570.0	11.2	5.16	7.4	3.05	4.4	5.65	8.0
1996	649.5	12.6	232.7	358	279.0	30.9	:	:	157.1	13.8	560.1	10.9	3.99	6.1	2.68	4.1	5.62	8.6
1999	621.9	12.0	241.9	389	263.5	27.8	:	:	144.6	12.9	556.1	10.7	3.64	5.8	2.44	3.9	5.14	8.2
2000	604.4	11.6	238.6	395	268.0	27.8	:	:	141.1	12.7	535.7	10.3	3.40	5.6	2.34	3.9	4.96	8.2
2001	594.6	11.4	238.1	400	249.2	25.4	:	:	143.8	12.9	530.4	10.1	3.27	5.5	2.15	3.6	4.76	8.0
2002	596.1	11.3	242.0	406	255.6	25.6	:	:	147.7	13.3	535.4	10.2	3.17	5.3	2.14	3.6	5.01	8.3
2003	621.5	11.8	257.2	414	270.1	26.5	:	:	153.2	13.9	539.2	10.2	3.31	5.3	2.25	3.6	5.35	8.6
2004	639.7	12.1	269.7	422	273.1	26.2	:	:	153.0	14.0	514.3	9.7	3.27	5.1	2.24	3.5	5.41	8.4
2005	645.8	12.1	276.5	428	247.8	23.3	1.86[10]	5.8[10]	141.1	12.9	513.0	9.6	3.25	5.0	2.22	3.4	5.17	8.0
2006	669.6	12.5	291.4	435	239.5	22.0	14.94	1.4	132.2	12.1	502.6	9.4	3.37	5.0	2.35	3.5	5.36	8.0
2007	690.0	12.8	305.6	443	235.4	21.2	7.93	0.7	128.2	11.8	504.1	9.3	3.35	4.8	2.28	3.3	5.37	7.7
2008	708.7	13.0	320.8	453	233.0[P]	20.7[P]	6.56	0.6	121.8	11.2	509.1	9.3	3.37	4.8	2.30	3.2	5.38	7.6
2009	706.2[P]	12.9[P]	326.2[P]	462[P]	..	..	..	..	..	..	491.3[P]	9.0[P]	3.31[P]	4.7[P]	2.25[P]	3.2[P]	5.40[P]	7.6[P]
2007 March	164.0	12.3	72.5	442	27.0	9.9	1.55	0.6	34.6	12.9	139.3	10.4	0.80	4.9	0.56	3.4	1.31	7.9
June	169.5	12.6	73.5	434	66.0	23.9	2.16	0.8	33.0	12.2	121.0	9.0	0.88	5.2	0.60	3.5	1.36	8.0
Sept	181.4	13.3	80.8	445	101.3	36.3	2.68	1.0	33.0	12.0	114.0	8.4	0.84	4.6	0.57	3.1	1.35	7.4
Dec	175.0	12.8	78.7	450	41.1	14.7	1.54	0.6	27.6	10.1	129.7	9.5	0.83	4.7	0.56	3.2	1.35	7.7
2008 March	173.8	12.8	78.6	452	27.5[P]	9.8[P]	1.13	0.4	31.9	11.9	136.4	10.1	0.86	4.9	0.60	3.4	1.38	7.9
June	177.0	13.1	79.4	449	63.6[P]	22.7[P]	1.79	0.6	30.6	11.4	123.1	9.1	0.79	4.5	0.53	3.0	1.33	7.4
Sept	182.4	13.3	83.1	455	99.1[P]	34.9[P]	2.24	0.8	30.4	11.2	114.3	8.4	0.87	4.8	0.60	3.3	1.32	7.2
Dec	175.5	12.8	79.8	455	42.9[P]	15.1[P]	1.39	0.5	28.8	10.6	135.3	9.9	0.85	4.8	0.57	3.3	1.36	7.7
2009 March	169.0[P]	12.5[P]	77.8[P]	461[P]	26.4[P]	9.5[P]	0.91[P]	0.3[P]	28.4[P]	10.6[P]	138.9[P]	10.3[P]	0.83[P]	4.9[P]	0.54[P]	3.2[P]	1.33[P]	7.8[P]
June	175.1[P]	12.8[P]	79.4[P]	454[P]	..	..	1.49[P]	0.5[P]	27.2[P]	10.1[P]	115.7[P]	8.5[P]	0.85[P]	4.9[P]	0.56[P]	3.2[P]	1.34[P]	7.6[P]
Sept	181.3[P]	13.1[P]	84.4[P]	466[P]	..	..	2.06[P]	0.7[P]	..	..	110.7[P]	8.0[P]	0.80[P]	4.4[P]	0.57[P]	3.1[P]	1.38[P]	7.6[P]
Dec	180.9[P]	13.1[P]	84.5[P]	467[P]	..	..	..	..	..	..	126.1[P]	9.1[P]	0.84[P]	4.6[P]	0.58[P]	3.2[P]	1.35[P]	7.4[P]

Notes: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005. Death figures for 2006, 2007, 2008 and provisional death figures for 2009 relate to registrations.

Infant, neonatal and perinatal mortality rates for Northern Ireland take account of the non-resident livebirths.

Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales. These events are, however, included in the totals for England and Wales combined, and for the United Kingdom.

All infant, neonatal and perinatal mortality data has been revised to registration data. A production error was identified in the calculation of these figures when originally published on 24 February 2010. All figures have now been corrected.

From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.

Figures for divorces back to 2003 for England and Wales differ slightly to those previously published due to duplicate records being identified and removed from the datasets.

The birth and death rates for 2009 are based on 2008-based population projections for 2009.

The birth rates for all live births and the death rates for 2002–2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ from those published previously.

Marriage, civil partnership and divorce rates for 2009 are based on 2008 marital status estimates.

The rates for Scotland have taken into account the revised marital status estimates for Scotland from 2002 to 2007.

Marital status estimates/rates are not available for Northern Ireland/UK.

1 Per 1,000 population of all ages.
2 Per 1,000 live births.
3 Persons marrying per 1,000 unmarried population aged 16 and over.
4 Persons forming a civil partnership per 1,000 unmarried population aged 16 and over.
5 Persons divorcing per 1,000 married population.
6 Deaths under 1 year.
7 Deaths under 4 weeks.
8 Stillbirths and deaths under 1 week.
9 Per 1,000 live births and stillbirths.
10 The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK – see Notes to tables.
p provisional.

Table 2.1 continued **Vital statistics summary**

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[1]		Neonatal mortality[1]		Perinatal mortality[1]	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]	Number	Rate[4]	Number	Rate	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
England																		
1976	550.4	11.8	50.8	92	339.0	..	:	:	..	..	560.3	12.0	7.83	14.2	5.32	9.7	9.81	17.6
1981	598.2	12.8	76.9	129	332.2	..	:	:	..	..	541.0	11.6	6.50	10.9	3.93	6.6	7.04	11.7
1986	623.6	13.2	133.5	214	328.4	..	:	:	146.0	..	544.5	11.6	5.92	9.5	3.27	5.2	5.98	9.5
1991	660.8	13.8	198.9	301	290.1	..	:	:	150.1	..	534.0	11.2	4.86	7.3	2.87	4.3	5.33	8.0
1996	614.2	12.7	218.2	355	264.2	..	:	:	148.7	..	524.0	10.8	3.74	6.1	2.53	4.1	5.36	8.7
1999	589.5	12.0	226.7	385	249.5	..	:	:	137.0	..	519.6	10.8	3.38	5.7	2.29	3.9	4.86	8.2
2000	572.8	11.7	223.8	391	253.8	..	:	:	133.9	..	501.0	10.2	3.20	5.6	2.21	3.9	4.70	8.2
2001	563.7	11.4	223.3	396	236.2	..	:	:	136.4	..	496.1	10.0	3.06	5.4	2.03	3.6	4.51	8.0
2002	565.7	11.4	227.0	401	242.1	..	:	:	140.2	..	500.8	10.1	3.00	5.3	2.03	3.6	4.76	8.4
2003	589.9	11.8	241.4	409	255.6	..	:	:	145.5	..	504.1	10.1	3.15	5.3	2.14	3.6	5.08	8.6
2004	607.2	12.1	253.1	417	258.2	..	:	:	145.1	..	480.7	9.6	3.07	5.1	2.12	3.5	5.12	8.4
2005	613.0	12.1	259.4	423	233.8	..	1.79[10]	..	134.2	..	479.7	9.5	3.08	5.0	2.11	3.4	4.91	8.0
2006	635.7	12.5	273.5	430	226.0	..	14.38	..	125.3	..	470.3	9.3	3.19	5.0	2.24	3.5	5.11	8.0
2007	655.4	12.8	287.0	438	222.5	..	7.64	..	121.6	..	470.7	9.2	3.13	4.8	2.15	3.3	5.10	7.7
2008	672.8	13.1	300.9	447	220.1[P]	..	6.28	..	115.5	..	475.8	9.2	3.18	4.7	2.18	3.2	5.11	7.6
2009	671.1[P]	13.0[P]	306.3[P]	457[P]	..	..	..	..	..	..	459.2[P]	8.9[P]	3.11[P]	4.6[P]	2.13[P]	3.2[P]	5.11[P]	7.6[P]
2007 March	155.9	12.4	68.1	437	25.6	..	1.49	..	32.7	..	130.3	10.3	0.74	4.7	0.52	3.3	1.23	7.8
June	161.0	12.6	69.0	429	62.4	..	2.06	..	31.3	..	112.9	8.9	0.84	5.2	0.57	3.5	1.30	8.0
Sept	172.2	13.4	75.9	441	95.6	..	2.60	..	31.3	..	106.4	8.3	0.79	4.6	0.54	3.1	1.29	7.5
Dec	166.3	12.9	74.0	445	38.9	..	1.48	..	26.2	..	121.2	9.4	0.76	4.6	0.53	3.2	1.28	7.6
2008 March	165.0	12.9	73.7	447	25.9[P]	..	1.08	..	30.3	..	127.6	10.0	0.82	4.9	0.57	3.4	1.30	7.9
June	167.9	13.1	74.4	443	60.0[P]	..	1.72	..	29.1	..	115.1	9.0	0.74	4.4	0.50	3.0	1.26	7.5
Sept	173.2	13.4	77.9	450	93.5[P]	..	2.14	..	28 8	..	106.7	8.2	0.82	4.7	0.57	3.3	1.25	7.2
Dec	166.7	12.9	74.9	449	40.6[P]	..	1.33	..	27.3	..	126.4	9.8	0.81	4.8	0.54	3.3	1.30	7.7
2009 March	160.5[P]	12.6[P]	73.1[P]	455[P]	25.1[P]	..	0.89[P]	..	26.8[P]	..	129.7[P]	10.2[P]	0.79[P]	4.9[P]	0.52[P]	3.3[P]	1.27[P]	7.9[P]
June	166.4[P]	12.9[P]	74.6[P]	448[P]	..	..	1.41[P]	..	25.6[P]	..	108.2[P]	8.4[P]	0.80[P]	4.8[P]	0.53[P]	3.2[P]	1.27[P]	7.6[P]
Sept	172.2[P]	13.2[P]	79.3[P]	460[P]	..	..	1.97[P]	..	..	..	103.5[P]	7.9[P]	0.74[P]	4.3[P]	0.53[P]	3.1[P]	1.30[P]	7.5[P]
Dec	171.9[P]	13.2[P]	79.4[P]	462[P]	..	..	..	..	..	..	117.8[P]	9.0[P]	0.78[P]	4.5[P]	0.54[P]	3.1[P]	1.27[P]	7.3[P]
Wales																		
1976	33.4	11.9	2.9	86	19.5	..	:	:	..	..	36.3	13.0	0.46	13.7	0.32	9.6	0.64	19.0
1981	35.8	12.7	4.0	112	19.8	..	:	:	..	..	35.0	12.4	0.45	12.6	0.29	8.1	0.51	14.1
1986	37.0	13.2	7.8	211	19.5	..	:	:	7.8	..	34.7	12.3	0.35	9.5	0.21	5.6	0.38	10.3
1991	38.1	13.3	12.3	323	16.6	..	:	:	8.4	..	34.1	11.9	0.25	6.6	0.16	4.1	0.30	7.9
1996	34.9	12.1	14.4	412	14.8	..	:	:	8.4	..	34.6	12.0	0.20	5.6	0.13	3.6	0.26	7.5
1999	32.1	11.1	14.8	461	14.0	..	:	:	7.5	..	35.0	12.1	0.21	6.4	0.13	4.1	0.25	7.8
2000	31.3	10.8	14.8	472	14.1	..	:	:	7.2	..	33.3	11.5	0.16	5.2	0.11	3.6	0.23	7.3
2001	30.6	10.5	14.8	483	13.0	..	:	:	7.4	..	33.0	11.3	0.17	5.5	0.11	3.4	0.23	7.5
2002	30.2	10.4	15.0	497	13.5	..	:	:	7.6	..	33.3	11.4	0.14	4.7	0.10	3.1	0.24	7.7
2003	31.4	10.7	15.8	503	14.5	..	:	:	7.7	..	33.8	11.5	0.13	4.1	0.09	3.0	0.24	7.5
2004	32.3	11.0	16.6	513	14.9	..	:	:	7.9	..	32.3	11.0	0.17	5.1	0.11	3.3	0.26	8.1
2005	32.6	11.0	17.1	524	14.0	..	0.07[10]	..	7.2	..	32.2	10.9	0.14	4.3	0.09	2.9	0.24	7.4
2006	33.6	11.4	17.8	530	13.5	..	0.56	..	7.0	..	31.1	10.5	0.14	4.1	0.09	2.8	0.23	6.9
2007	34.4	11.6	18.5	538	12.9	..	0.29	..	6.7	..	32.1	10.8	0.18	5.3	0.12	3.4	0.25	7.3
2008	35.7	11.9	19.8	556	12.9[P]	..	0.28	..	6.3	..	32.1	10.7	0.15	4.1	0.11	3.0	0.24	6.7
2009	34.9[P]	11.6[P]	19.8[P]	566[P]	..	..	..	..	..	..	31.0[P]	10.3[P]	0.17[P]	4.8[P]	0.11[P]	3.1[P]	0.26[P]	7.4[P]
2007 March	8.1	11.0	4.3	536	1.3	..	0.06	..	1.8	..	8.8	11.9	0.05	6.3	0.03	3.7	0.07	9.0
June	8.5	11.5	4.5	530	3.6	..	0.10	..	1.8	..	7.9	10.6	0.04	4.5	0.02	2.8	0.06	6.8
Sept	9.1	12.2	4.9	541	5.7	..	0.08	..	1.7	..	7.3	9.7	0.04	4.4	0.03	2.8	0.05	5.7
Dec	8.7	11.6	4.8	547	2.2	..	0.06	..	1.4	..	8.3	11.0	0.05	6.1	0.04	4.1	0.07	7.9
2008 March	8.7	11.8	4.8	552	1.6[P]	..	0.06	..	1.6	..	8.6	11.5	0.04	4.1	0.03	3.0	0.06	7.3
June	9.0	12.1	5.0	555	3.5[P]	..	0.07	..	1.5	..	7.7	10.4	0.04	4.2	0.03	3.2	0.06	6.4
Sept	9.2	12.2	5.1	556	5.5[P]	..	0.10	..	1.6	..	7.3	9.7	0.04	3.8	0.03	2.9	0.06	6.3
Dec	8.8	11.6	4.9	561	2.3[P]	..	0.06	..	1.5	..	8.5	11.3	0.04	4.3	0.03	3.0	0.06	6.9
2009 March	8.4[P]	11.4[P]	4.7[P]	559[P]	1.3[P]	..	0.03[P]	..	1.6[P]	..	8.9[P]	12.0[P]	0.03[P]	3.1[P]	0.02[P]	2.0[P]	0.05[P]	5.3[P]
June	8.6[P]	11.5[P]	4.8[P]	561[P]	..	..	0.08[P]	..	1.6[P]	..	7.3[P]	9.7[P]	0.04[P]	4.5[P]	0.03[P]	3.0[P]	0.07[P]	7.5[P]
Sept	8.9[P]	11.8[P]	5.1[P]	571[P]	..	..	0.09[P]	..	..	..	6.9[P]	9.2[P]	0.05[P]	5.5[P]	0.03[P]	3.6[P]	0.08[P]	8.6[P]
Dec	8.9[P]	11.8[P]	5.1[P]	572[P]	..	..	..	..	..	..	7.9[P]	10.5[P]	0.05[P]	5.8[P]	0.03[P]	3.6[P]	0.07[P]	8.1[P]
Scotland																		
1976	64.9	12.5	6.0	93	37.5	53.8	:	:	8.1	6.5	65.3	12.5	0.96	14.8	0.67	10.3	1.20	18.3
1981	69.1	13.4	8.5	122	36.2	47.5	:	:	9.9	8.0	63.8	12.3	0.78	11.3	0.47	6.9	0.81	11.6
1986	65.8	12.9	13.6	206	35.8	42.9	:	:	12.8	10.7	63.5	12.4	0.58	8.8	0.34	5.2	0.67	10.2
1991	67.0	13.2	19.5	291	33.8	39.0	:	:	12.4	10.6	61.0	12.0	0.47	7.1	0.29	4.6	0.58	8.6
1996	59.3	11.6	21.4	360	30.2	33.2	:	:	12.3	10.9	60.7	11.9	0.37	6.2	0.23	3.9	0.55	9.2
1999	55.1	10.9	22.7	412	29.9	31.5	:	:	11.9	10.9	60.3	11.9	0.28	5.0	0.18	3.3	0.42	7.6
2000	53.1	10.5	22.6	426	30.4	31.6	:	:	11.1	10.3	57.8	11.4	0.31	5.7	0.21	4.0	0.45	8.4
2001	52.5	10.4	22.8	433	29.6	31.0	:	:	10.7	9.7	57.4	11.3	0.29	5.5	0.20	3.8	0.45	8.5
2002	51.3	10.1	22.5	440	29.8	30.8	:	:	10.9	10.0	58.1	11.5	0.27	5.3	0.16	3.2	0.39	7.6
2003	52.4	10.4	23.9	455	30.8	31.3	:	:	10.9	10.2	58.5	11.6	0.27	5.1	0.18	3.4	0.42	8.0
2004	54.0	10.6	25.2	467	32.2	32.1	:	:	11.3	10.5	56.2	11.1	0.27	4.9	0.17	3.1	0.44	8.1
2005	54.4	10.7	25.6	471	30.9	30.3	0.08[10]	2.5[10]	10.9	10.3	55.7	10.9	0.28	5.2	0.19	3.5	0.42	7.7
2006	55.7	10.9	26.6	477	29.9	28.7	1.05	1.0	13.1	12.3	55.1	10.8	0.25	4.5	0.17	3.1	0.42	7.4
2007	57.8	11.2	28.4	491	29.9	28.1	0.69	0.6	12.8	12.2	56.0	10.9	0.27	4.7	0.19	3.2	0.45	7.8
2008	60.0	11.6	30.1	501	28.9	26.6	0.53	0.5	11.5	11.0	55.7	10.8	0.25	4.2	0.17	2.8	0.45	7.4
2009	59.0[P]	11.4[P]	29.7[P]	503[P]	27.5[P]	25.3[P]	..	..	..	..	53.9[P]	10.4[P]	0.24[P]	4.0[P]	0.17[P]	2.8[P]	0.44[P]	7.4[P]

See notes on first page of table

Table 2.1 continued **Vital statistics summary**

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
2007 March	14.2	11.2	7.1	501	3.3	12.7	0.11	0.4	3.3	12.8	15.8	12.5	0.07	4.9	0.05	3.6	0.12	8.1
June	14.3	11.1	6.9	482	8.1	30.7	0.18	0.7	3.3	12.7	13.4	10.4	0.08	5.3	0.05	3.4	0.12	8.6
Sept	14.9	11.5	7.2	485	12.6	47.1	0.25	0.9	3.0	11.4	12.6	9.7	0.07	4.6	0.05	3.0	0.11	7.1
Dec	14.4	11.1	7.1	497	5.8	21.6	0.15	0.6	3.1	11.8	14.2	10.9	0.06	3.9	0.04	2.9	0.11	7.5
2008 March	15.1	11.9	7.7	510	3.4	12.7	0.10	0.4	2.8	10.7	15.1	11.7	0.06	4.0	0.04	2.8	0.11	7.0
June	14.9	11.5	7.3	488	7.9	29.2	0.11	0.4	3.0	11.8	13.5	10.5	0.06	4.0	0.04	2.5	0.11	7.5
Sept	15.5	11.9	7.7	498	11.9	43.5	0.20	0.7	2.8	10.9	12.6	9.7	0.07	4.8	0.05	3.4	0.11	6.9
Dec	14.5	11.2	7.4	507	5.7	20.7	0.12	0.4	2.8	10.8	14.5	11.2	0.06	4.1	0.04	2.4	0.12	8.2
2009 March	14.5[P]	11.4[P]	7.4[P]	512[P]	3.2[P]	11.9[P]	0.05[P]	0.2[P]	..	..	14.8[P]	11.6[P]	0.06[P]	4.3[P]	0.04[P]	2.9[P]	0.10[P]	6.7[P]
June	14.9[P]	11.5[P]	7.4[P]	495[P]	7.9[P]	29.0[P]	0.15[P]	0.5[P]	..	..	12.8[P]	9.9[P]	0.06[P]	4.0[P]	0.05[P]	3.2[P]	0.13[P]	8.9[P]
Sept	15.3[P]	11.7[P]	7.6[P]	499[P]	11.3[P]	41.0[P]	0.19[P]	0.7[P]	..	..	12.4[P]	9.5[P]	0.06[P]	3.9[P]	0.04[P]	2.6[P]	0.10[P]	6.5[P]
Dec	14.4[P]	11.1[P]	7.3[P]	507[P]	5.2[P]	19.0[P]	..	..	..	..	13.8[P]	10.6[P]	0.05[P]	3.7[P]	0.04[P]	2.5[P]	0.11[P]	7.4[P]
Northern Ireland																		
1976	26.4	17.3	1.3	50	9.9	..	:	:	0.6	..	17.0	11.2	0.48	18.3	0.35	13.3	0.59	22.3
1981	27.2	17.6	1.9	70	9.6	45.4	:	:	1.4	4.2	16.3	10.6	0.36	13.2	0.23	8.3	0.42	15.3
1986	28.0	17.8	3.6	128	10.2	..	:	:	1.5	..	16.1	10.3	0.36	13.2	0.23	8.3	0.42	15.3
1991	26.0	16.2	5.3	203	9.2	..	:	:	2.3	..	15.1	9.4	0.19	7.4	0.12	4.6	0.22	8.4
1996	24.4	14.7	6.3	260	8.3	..	:	:	2.3	..	15.2	9.2	0.14	5.8	0.09	3.7	0.23	9.4
1999	23.0	13.7	7.0	303	7.6	..	:	:	2.3	..	15.7	9.3	0.15	6.4	0.11	4.8	0.23	10.0
2000	21.5	12.8	6.8	318	7.6	..	:	:	2.4	..	14.9	8.9	0.11	5.0	0.08	3.8	0.16	7.2
2001	22.0	13.0	7.1	325	7.3	..	:	:	2.4	..	14.5	8.6	0.13	6.0	0.10	4.4	0.19	8.4
2002	21.4	12.6	7.2	335	7.6	..	:	:	2.2	..	14.6	8.6	0.10	4.6	0.07	3.4	0.19	8.7
2003	21.6	12.7	7.4	344	7.8	..	:	:	2.3	..	14.5	8.5	0.12	5.2	0.09	3.9	0.18	8.0
2004	22.3	13.0	7.7	345	8.3	..	:	:	2.5	..	14.4	8.4	0.12	5.3	0.08	3.6	0.19	8.0
2005	22.3	12.9	8.1	363	8.1	..	0.01[10]	..	2.4	..	14.2	8.2	0.14	6.1	0.11	4.9	0.19	8.1
2006	23.3	13.4	8.8	380	8.3	..	0.12	..	2.6	..	14.5	8.3	0.12	5.1	0.09	3.8	0.17	6.9
2007	24.5	13.9	9.3	379	8.7	..	0.11	..	2.9	..	14.6	8.3	0.12	4.9	0.08	3.2	0.17	6.9
2008	25.6	14.4	10.0	389	8.5	..	0.09	..	2.8	..	14.9	8.4	0.12	4.7	0.10	3.6	0.19	7.4
2009	24.9[P]	13.9[P]	9.9[P]	398[P]	7.9[P]	..	..	..	..	..	14.4[P]	8.1[P]	0.13[P]	5.1[P]	0.10[P]	3.8[P]	0.20[P]	7.8[P]
2007 March	6.1	14.0	2.4	383	1.0	..	0.02	..	0.9	..	4.2	9.7	0.04	6.7	0.03	4.6	0.05	7.6
June	6.0	13.6	2.2	365	2.4	..	0.03	..	0.7	..	3.6	8.2	0.03	5.1	0.02	2.9	0.04	6.7
Sept	6.5	14.7	2.5	386	3.8	..	0.04	..	0.7	..	3.3	7.3	0.03	4.6	0.02	3.2	0.05	7.0
Dec	5.9	13.3	2.2	380	1.6	..	0.02	..	0.6	..	3.6	8.1	0.02	3.3	0.01	2.2	0.04	6.5
2008 March	6.5	14.7	2.6	396	1.1	..	0.02	..	0.8	..	4.1	9.4	0.03	4.6	0.03	3.9	0.05	7.3
June	6.3	14.3	2.4	384	2.2	..	0.02	..	0.7	..	3.6	8.2	0.03	4.6	0.02	3.5	0.04	6.4
Sept	6.5	14.5	2.5	386	3.6	..	0.02	..	0.6	..	3.4	7.7	0.03	3.8	0.02	2.7	0.05	7.5
Dec	6.3	14.2	2.5	389	1.6	..	0.02	..	0.7	..	3.7	8.4	0.04	5.7	0.03	4.3	0.05	8.2
2009 March	6.3[P]	14.2[P]	2.6[P]	409[P]	0.9[P]	..	0.01[P]	..	..	..	4.2[P]	9.5[P]	0.04[P]	6.5[P]	0.03[P]	4.8[P]	0.07[P]	10.0[P]
June	6.3[P]	14.2[P]	2.4[P]	389[P]	2.3[P]	..	0.02[P]	..	..	..	3.4[P]	7.7[P]	0.03[P]	4.8[P]	0.02[P]	3.4[P]	0.04[P]	6.0[P]
Sept	6.3[P]	14.3[P]	2.5[P]	397[P]	3.2[P]	..	0.03[P]	..	..	..	3.2[P]	7.2[P]	0.04[P]	5.6[P]	0.03[P]	4.5[P]	0.05[P]	8.0[P]
Dec	6.0[P]	13.4[P]	2.4[P]	395[P]	1.5[P]	..	..	..	..	..	3.6[P]	7.9[P]	0.02[P]	3.5[P]	0.02[P]	2.5[P]	0.04[P]	7.0[P]

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Table 2.2 Key demographic and health indicators

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

Year and quarter	Population	Live births	Deaths	Dependency ratio: Children[1]	Dependency ratio: Elderly[2]	Live births: TFR[3]	Live births: Standardised mean age of mother at birth (years)[4]	Live births: Unstandardised mean age of mother at birth (years)[5]	Live births: Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Period expectation of life (in years) at birth[7]: Males	Period expectation of life (in years) at birth[7]: Females	Infant mortality rate[8]
United Kingdom													
1976	56,216.1	675.5	680.8	42.1	29.5	1.74	26.7	26.4	*9.0*	10,486	..	..	14.5
1981	56,357.5	730.7	658.0	37.1	29.7	1.82	27.0	26.8	*12.5*	9,506	70.8	76.8	11.2
1986	56,683.8	754.8	660.7	33.5	29.7	1.78	27.4	27.0	*20.4*	8,914	71.9	77.7	9.5
1991	57,438.7	792.3	646.2	33.2	30.0	1.82	27.7	27.7	*29.8*	8,168	73.2	78.7	7.4
1996	58,164.4	733.2	636.0	33.9	30.0	1.73	28.2	28.6	*35.5*	7,584	74.2	79.4	6.1
2001	59,113.5	669.1	602.3	32.6	29.8	1.63	28.6	29.2	*40.1*	6,807	75.6	80.4	5.5
2002	59,318.8	668.8	606.2	32.2	29.8	1.64	28.7	29.3	*40.6*	6,791	75.9	80.5	5.3
2003	59,552.2	695.6	612.0	31.8	29.9	1.71	28.8	29.4	*41.5*	6,773	76.2	80.7	5.3
2004	59,841.9	716.0	583.1	31.4	30.0	1.77	29.0	29.4	*42.3*	6,421	76.5	80.9	5.1
2005	60,235.5	722.5	582.7	31.0	30.0	1.78	29.1	29.5	*42.9*	6,279	76.9	81.3	5.1
2006	60,584.3	748.6	572.2	30.6	30.1	1.84	29.2	29.5	*43.7*	6,066	77.2	81.5	5.0
2007	60,985.7	772.2	574.7	30.4	30.5	1.90	29.3	29.5	*44.4*	5,965	77.4	81.6	4.8
2008	61,398.2	794.4	579.7	30.2	31.0	1.96	29.3	29.5	*45.3*	5,907	..	..	4.7
2009[p]	..	790.2	559.6	..	..	1.94	29.4	29.5	*46.2*	5,630	..	..	4.6
England													
1976	46,659.9	550.4	560.3	41.4	29.7	1.70	26.5	26.4	*9.2*	10,271	..	..	14.2
1981	46,820.8	598.2	541.0	36.4	29.9	1.79	27.0	26.8	*12.9*	9,298	71.1	77.0	10.9
1986	47,187.6	623.6	544.5	33.1	29.8	1.76	27.4	27.0	*21.4*	8,725	72.2	77.9	9.5
1991	47,875.0	660.8	534.0	32.9	30.0	1.81	27.7	27.7	*30.1*	8,017	73.4	78.9	7.3
1996	48,519.1	614.2	524.0	33.7	30.0	1.73	28.2	28.7	*35.5*	7,414	74.5	79.6	6.1
2001	49,449.7	563.7	496.1	32.5	29.7	1.63	28.6	29.3	*39.6*	6,650	75.9	80.6	5.4
2002	49,649.1	565.7	499.1	32.1	29.7	1.65	28.7	29.4	*40.1*	6,631	76.1	80.7	5.3
2003	49,863.3	589.9	503.4	31.8	29.8	1.73	28.9	29.4	*40.9*	6,617	76.5	80.9	5.3
2004	50,109.7	607.2	479.2	31.4	29.8	1.78	29.0	29.5	*41.7*	6,265	76.8	81.1	5.1
2005	50,466.2	613.0	479.4	30.9	29.9	1.79	29.1	29.5	*42.3*	6,131	77.2	81.5	5.0
2006	50,763.9	635.7	470.3	30.6	29.9	1.86	29.2	29.5	*43.0*	5,914	77.5	81.7	5.0
2007	51,106.2	655.4	470.7	30.4	30.3	1.91	29.3	29.6	*43.8*	5,791	77.7	81.9	4.8
2008	51,464.6	672.8	475.8	30.3	30.8	1.96	29.4	29.5	*44.7*	5,746	..	..	4.7
2009[p]	..	671.1	459.2	..	..	1.95	29.4	29.5	*45.7*	5,478	..	..	4.6
Wales													
1976	2,799.3	33.4	36.3	42.0	30.9	1.78	26.2	26.0	*8.6*	10,858	..	..	13.7
1981	2,813.5	35.8	35.0	37.6	31.6	1.87	26.7	26.6	*11.2*	9,846	70.4	76.4	12.6
1986	2,810.9	37.0	34.7	34.3	32.5	1.86	26.9	26.5	*21.1*	9,043	71.6	77.5	9.5
1991	2,873.0	38.1	34.1	34.4	33.5	1.88	27.1	27.0	*32.3*	8,149	73.1	78.8	6.6
1996	2,891.3	34.9	34.6	34.9	33.7	1.81	27.5	27.8	*41.2*	7,758	73.8	79.1	5.6
2001	2,910.2	30.6	33.0	33.7	33.6	1.66	27.8	28.3	*48.3*	7,017	75.3	80.0	5.5
2002	2,918.2	30.2	33.2	33.3	33.7	1.65	28.0	28.4	*49.7*	6,997	75.5	80.1	4.7
2003	2,928.8	31.4	33.7	32.8	33.8	1.73	28.1	28.5	*50.3*	7,033	75.8	80.3	4.1
2004	2,943.5	32.3	32.1	32.3	33.9	1.79	28.2	28.5	*51.3*	6,645	76.1	80.6	5.1
2005	2,950.1	32.6	32.1	31.8	34.1	1.81	28.4	28.5	*52.4*	6,481	76.6	80.9	4.3
2006	2,961.9	33.6	31.1	31.4	34.3	1.86	28.5	28.5	*53.0*	6,199	76.7	81.1	4.1
2007	2,976.1	34.4	32.1	31.0	34.9	1.91	28.6	28.6	*53.8*	6,308	76.9	81.2	5.3
2008	2,990.1	35.7	32.1	30.7	35.5	1.97	28.7	28.5	*55.6*	6,147	..	..	4.1
2009[p]	..	34.9	31.0	..	..	1.92	28.7	28.5	*56.7*	5,888	..	..	4.8

Notes: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005.
Death figures for 2006 onwards relate to registrations.
Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales (apart from life expectancy figures – where those occurring in England and Wales are assigned to England). These events are, however, included in the total for the United Kingdom.
From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.
Birth and death rates for 2009 have been calculated using 2008-based population projections for 2009.
The birth rates, death rates and the standardised mean age of mother at birth for 2002-2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ from those published previously.
Infant mortality rates for Northern Ireland take account of the non-resident live births.

1 Percentage of children under 16 to working-age population (males 16–64 and females 16–59).
2 Percentage of males 65 and over and females 60 and over to working-age population (males 16–64 and females 16–59).
3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).
4 Standardised to take account of the age structure of the population.
5 Unstandardised and therefore takes no account of the age structure of the population.
6 Per million population. The age-standardised mortality rate makes allowances for changes in the age structure of the population. See Notes to tables.
7 All countries: figures for all years based on registered deaths. A minor methodological change was introduced for the 2006 figures to ensure consistency with population estimates of the very elderly for England and Wales. The effect on calculated life expectancies is marginal.
8 Deaths at age under one year per 1,000 live births. All infant mortality data has now been revised to registration data.
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Table 2.2 continued **Key demographic and health indicators**

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

Year and quarter	Population	Live births	Deaths	Dependency ratio: Children[1]	Dependency ratio: Elderly[2]	Live births: TFR[3]	Live births: Standardised mean age of mother at birth (years)[4]	Live births: Unstandardised mean age of mother at birth (years)[5]	Live births: Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Period expectation of life (in years) at birth[7]: Males	Period expectation of life (in years) at birth[7]: Females	Infant mortality rate[8]
Scotland													
1976	5,233.4	64.9	65.3	44.7	28.4	1.79	26.4	26.0	*9.3*	11,675	..	..	14.8
1981	5,180.2	69.1	63.8	38.2	28.4	1.84	26.8	26.3	*12.2*	10,849	69.1	75.3	11.3
1986	5,111.8	65.8	63.5	33.6	28.1	1.67	27.1	26.6	*20.6*	10,120	70.2	76.2	8.8
1991	5,083.3	67.0	61.0	32.4	28.9	1.69	27.5	27.4	*29.1*	9,216	71.4	77.1	7.1
1996	5,092.2	59.3	60.7	32.3	29.2	1.56	28.0	28.5	*36.0*	8,791	72.2	77.9	6.2
2001	5,064.2	52.5	57.4	30.8	30.0	1.49	28.5	29.2	*43.3*	7,930	73.3	78.8	5.5
2002	5,054.8	51.3	58.1	30.3	30.2	1.48	28.6	29.2	*44.0*	7,955	73.5	78.9	5.3
2003	5,057.4	52.4	58.5	29.9	30.3	1.54	28.7	29.3	*45.5*	7,478	73.8	79.1	5.1
2004	5,078.4	54.0	56.2	29.5	30.5	1.60	28.9	29.4	*46.7*	7,536	74.2	79.3	4.9
2005	5,094.8	54.4	55.7	29.1	30.6	1.62	29.0	29.5	*47.1*	7,349	74.6	79.6	5.2
2006	5,116.9	55.7	55.1	28.7	30.6	1.67	29.1	29.5	*47.7*	7,162	74.8	79.7	4.5
2007	5,144.2	57.8	56.0	28.4	31.0	1.73	29.2	29.4	*49.1*	7,150	75.0	79.9	4.7
2008	5,168.5	60.0	55.7	28.2	31.4	1.80	29.3	29.4	*50.1*	7,006	..	..	4.2
2009[P]	..	59.0	53.9	..	..	1.77	29.3	29.4	*50.3*	6,667	..	..	4.0
Northern Ireland													
1976	1,523.5	26.4	17.0	56.1	25.3	2.68	27.8	27.4	*5.0*	11,746	..	..	18.3
1981	1,543.0	27.2	16.3	50.6	25.3	2.59	28.1	27.5	*7.0*	10,567	69.2	75.5	13.2
1986	1,573.5	28.0	16.1	46.1	25.5	2.45	28.1	27.5	*12.8*	10,071	70.9	77.1	13.2
1991	1,607.3	26.0	15.1	44.1	26.1	2.16	28.3	28.0	*20.3*	8,303	72.6	78.4	7.4
1996	1,661.8	24.4	15.2	41.8	25.5	1.95	28.7	28.8	*26.0*	7,742	73.8	79.2	5.8
2001	1,689.3	22.0	14.5	38.6	25.5	1.80	29.1	29.4	*32.5*	6,976	75.2	80.1	6.0
2002	1,696.6	21.4	14.6	37.9	25.7	1.77	29.1	29.4	*33.5*	6,929	75.6	80.4	4.6
2003	1,702.6	21.6	14.5	37.2	25.9	1.81	29.2	29.5	*34.4*	6,742	75.8	80.6	5.2
2004	1,710.3	22.3	14.4	36.4	26.2	1.87	29.4	29.7	*34.5*	6,607	76.0	80.8	5.3
2005	1,724.4	22.3	14.2	35.8	26.3	1.87	29.5	29.7	*36.3*	6,415	76.1	81.0	6.1
2006	1,741.6	23.3	14.5	35.3	26.4	1.94	29.6	29.7	*38.0*	6,419	76.2	81.2	5.1
2007	1,759.1	24.5	14.6	34.9	26.6	2.02	29.8	29.8	*37.9*	6,319	76.3	81.2	4.9
2008	1,775.0	25.6	14.9	34.7	26.9	2.11	29.8	29.7	*38.9*	6,299	..	..	4.7
2009[P]	1,788.6	24.9	14.4	..	..	2.04	29.8	29.7	*39.8*	6,002	..	..	5.1

See notes on first page of table

Table 3.1 Live births: age of mother

England and Wales

Numbers (thousands), rates, mean age and TFRs

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[2] (years)	TFR[3]
	Total live births (numbers)								Age-specific fertility rates[4]								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	27.6	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.4	2.77
1964(max)	876.0	76.7	276.1	270.7	153.5	75.4	23.6	27.2	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.3	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	26.8	90.5	47.7	176.0	174.0	97.3	45.3	12.5	27.1	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	26.2	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.6	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	26.4	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.5	1.71
1977(min)	569.3	54.5	174.5	207.9	100.8	25.5	6.0	26.5	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.6	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	26.8	61.3	28.1	105.3	129.1	68.6	21.7	4.9	27.0	1.79
1986	661.0	57.4	192.1	229.0	129.5	45.5	7.6	27.0	60.6	30.1	92.7	123.8	78.0	24.6	4.8	27.4	1.77
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	27.7	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.7	1.82
1992	689.7	47.9	163.3	244.8	166.8	56.7	10.2	27.9	63.6	31.7	86.1	117.6	87.4	33.4	5.8	27.8	1.80
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	28.1	62.7	30.9	82.5	114.4	87.4	34.1	6.2	27.9	1.76
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	28.4	62.0	28.9	79.0	112.2	89.4	35.8	6.4	28.1	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	28.5	60.5	28.5	76.4	108.4	88.3	36.3	6.8	28.2	1.72
1996	649.5	44.7	125.7	211.1	186.4	69.5	12.1	28.6	60.6	29.7	77.0	106.6	89.8	37.5	7.2	28.2	1.74
1997	643.1	46.4	118.6	202.8	187.5	74.9	12.9	28.8	60.0	30.2	76.0	104.3	89.8	39.4	7.6	28.3	1.73
1998	635.9	48.3	113.5	193.1	188.5	78.9	13.6	28.9	59.2	30.9	74.9	101.5	90.6	40.4	7.9	28.3	1.72
1999	621.9	48.4	110.7	181.9	185.3	81.3	14.3	29.0	57.8	30.9	73.0	98.3	89.6	40.6	8.1	28.4	1.70
2000	604.4	45.8	107.7	170.7	180.1	85.0	15.1	29.1	55.9	29.3	70.0	94.3	87.9	41.4	8.3	28.5	1.65
2001	594.6	44.2	108.8	159.9	178.9	86.5	16.3	29.2	54.7	28.0	69.0	91.7	88.0	41.5	8.8	28.6	1.63
2002	596.1	43.5	111.0	153.4	180.5	90.4	17.3	29.3	54.7	27.1	69.1	91.5	89.9	43.0	9.1	28.7	1.65
2003	621.5	44.2	116.6	156.9	187.2	97.4	19.1	29.4	56.8	26.9	71.3	96.0	95.0	46.4	9.8	28.8	1.73
2004	639.7	45.1	121.1	160.0	190.6	102.2	20.8	29.4	58.2	26.8	72.7	97.7	99.7	48.8	10.4	28.9	1.78
2005	645.8	44.8	122.1	164.3	188.2	104.1	22.2	29.5	58.3	26.3	71.5	97.9	100.8	50.3	10.8	29.1	1.79
2006	669.6	45.5	127.8	172.6	189.4	110.5	23.7	29.5	60.2	26.6	73.0	100.7	104.9	53.9	11.4	29.1	1.86
2007	690.0	44.8	130.8	182.6	191.1	115.4	25.4	29.5	62.0	26.0	73.3	103.8	110.2	56.9	12.0	29.3	1.91
2008	708.7	44.7	136.0	193.0	192.5	116.2	26.4	29.5	63.8	26.0	74.4	108.1	113.1	58.4	12.6	29.3	1.97
2009[p]	706.2	43.2	136.0	194.1	191.6	114.3	27.0	29.5	63.6	25.4	73.2	106.6	112.7	59.1	12.9	29.4	1.95
2004 March	155.2	11.0	29.3	38.7	46.6	24.7	4.9	29.4	56.8	26.4	70.7	95.1	98.0	47.4	9.8	28.9	1.74
June	157.4	10.7	29.4	39.4	47.7	25.2	5.0	29.5	57.6	25.6	70.9	96.7	100.5	48.5	10.1	29.0	1.76
Sept	165.4	11.7	31.4	41.6	49.0	26.3	5.4	29.4	59.9	27.7	74.9	101.1	102.1	50.1	10.7	28.9	1.83
Dec	161.7	11.6	31.1	40.3	47.2	26.0	5.5	29.4	58.5	27.6	74.3	97.8	98.3	49.4	10.9	28.9	1.79
2005 March	154.3	10.9	29.3	38.9	45.0	24.7	5.4	29.4	56.5	26.0	69.5	94.1	97.7	48.5	10.7	29.0	1.74
June	159.8	10.7	29.6	40.3	47.5	26.2	5.4	29.5	57.8	25.3	69.6	96.3	102.0	50.8	10.6	29.1	1.78
Sept	170.2	11.9	32.5	43.7	49.4	26.9	5.7	29.4	60.9	27.6	75.6	103.3	105.0	51.6	11.1	29.0	1.88
Dec	161.7	11.3	30.7	41.4	46.3	26.3	5.7	29.4	57.9	26.3	71.2	97.9	98.4	50.4	11.0	29.0	1.78
2006 March	159.5	11.1	30.5	40.7	45.3	26.3	5.6	29.5	58.2	26.3	70.7	96.1	101.7	52.0	11.0	29.1	1.79
June	166.2	11.4	31.2	42.9	47.6	27.1	5.9	29.5	60.0	26.6	71.6	100.4	105.8	53.0	11.3	29.2	1.85
Sept	174.9	12.0	33.5	45.6	49.0	28.9	6.0	29.4	62.4	27.7	75.9	105.4	107.6	56.0	11.4	29.1	1.93
Dec	169.0	11.1	32.6	43.5	47.5	28.1	6.2	29.5	60.3	25.7	73.9	100.5	101.4	54.4	11.8	29.2	1.86
2007 March	164.0	10.9	31.1	42.7	45.7	27.4	6.2	29.5	59.8	25.6	70.8	98.5	106.9	54.8	12.0	29.3	1.85
June	169.5	10.7	31.4	44.6	47.8	28.9	6.2	29.6	61.1	25.0	70.6	101.8	110.5	57.1	11.8	29.4	1.89
Sept	181.4	11.9	34.6	48.6	50.0	29.9	6.4	29.5	64.7	27.3	76.9	109.8	114.4	58.6	12.0	29.2	2.00
Dec	175.0	11.3	33.7	46.6	47.6	29.2	6.6	29.5	62.4	26.1	74.9	105.2	108.9	57.2	12.4	29.3	1.93
2008 March	173.8	11.1	33.5	46.7	47.2	28.8	6.4	29.5	62.9	26.0	73.9	105.2	111.5	58.2	12.4	29.3	1.94
June	177.0	11.0	33.5	48.3	48.4	29.2	6.6	29.5	64.0	25.8	73.7	108.9	114.3	59.1	12.6	29.4	1.97
Sept	182.4	11.4	35.2	50.3	49.3	29.5	6.7	29.4	65.3	26.5	76.6	112.1	115.2	59.0	12.8	29.3	2.01
Dec	175.5	11.1	33.8	47.7	47.6	28.7	6.7	29.5	62.8	25.8	73.6	106.2	111.4	57.4	12.6	29.3	1.94
2009 March[p]	169.0	10.9	32.8	46.1	45.4	27.2	6.5	29.4	61.7	26.1	71.6	102.6	108.3	57.1	12.6	29.4	1.89
June[p]	175.1	10.5	33.2	48.2	47.7	28.7	6.8	29.6	63.3	24.8	71.7	106.2	112.5	59.6	13.0	29.5	1.94
Sept[p]	181.3	10.9	35.1	50.3	49.3	28.9	6.8	29.5	64.8	25.3	75.0	109.5	115.2	59.3	12.8	29.4	1.99
Dec[p]	180.9	10.9	34.9	49.5	49.2	29.4	6.9	29.5	64.6	25.4	74.5	107.9	114.9	60.4	13.1	29.4	1.98

Notes: The rates for women of all ages, under 20, and 40 and over are based upon the populations of women aged 15–44, 15–19, and 40–44 respectively.
Rates for 2009 are based on 2008-based population projections for 2009.
Birth rates and the standardised mean age of mother for 2002-2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

1 Unstandardised and therefore takes no account of the age structure of the population.

2 Standardised to take account of the age structure of the population.This measure is more appropriate for use when analysing trends or making comparisons between different geographies.

3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).

4 Births per 1,000 women in the age-group; all quarterly age-specific fertility rates are adjusted for days in the quarter. They are not adjusted for seasonality.

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Table 3.2 Live births outside marriage: age of mother and type of registration

England and Wales

Numbers (thousands), mean age and percentages

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Registration[2]: Joint: Same address[3]	Joint: Different addresses[3]	Sole
	Live births outside marriage (numbers)								Percentage of total live births in age group							As a percentage of all births outside marriage		
1971	65.7	21.6	22.0	11.5	6.2	3.2	1.1	23.7	*8.4*	*26.1*	*7.7*	*4.7*	*5.7*	*7.0*	*9.0*		*45.5*	*54.5*
1976	53.8	19.8	16.6	9.7	4.7	2.3	0.7	23.3	*9.2*	*34.2*	*9.1*	*4.4*	*5.2*	*8.6*	*10.1*		*51.0*	*49.0*
1981	81.0	26.4	28.8	14.3	7.9	1.3	0.9	23.4	*12.8*	*46.7*	*14.8*	*6.6*	*6.2*	*3.9*	*12.5*		*58.2*	*41.8*
1986	141.3	39.6	54.1	27.7	13.1	5.7	1.1	23.8	*21.4*	*69.0*	*28.2*	*12.1*	*10.1*	*12.6*	*14.7*	*46.6*	*19.6*	*33.8*
1991	211.3	43.4	77.8	52.4	25.7	9.8	2.1	24.8	*30.2*	*82.9*	*44.9*	*21.1*	*16.0*	*18.3*	*21.3*	*54.6*	*19.8*	*25.6*
1992	215.2	40.1	77.1	55.9	28.9	10.9	2.3	25.2	*31.2*	*83.7*	*47.2*	*22.8*	*17.3*	*19.3*	*22.9*	*55.4*	*20.7*	*23.9*
1993	216.5	38.2	75.0	57.5	31.4	11.9	2.5	25.5	*32.2*	*84.8*	*49.4*	*24.4*	*18.4*	*20.2*	*23.5*	*54.8*	*22.0*	*23.2*
1994	215.5	35.9	71.0	58.5	34.0	13.4	2.7	25.8	*32.4*	*85.5*	*50.6*	*25.5*	*18.9*	*21.2*	*25.2*	*57.5*	*19.8*	*22.7*
1995	219.9	36.3	69.7	59.6	37.0	14.4	3.0	26.0	*33.9*	*86.6*	*53.3*	*27.4*	*20.4*	*22.0*	*26.2*	*58.1*	*20.1*	*21.8*
1996	232.7	39.3	71.1	62.3	40.5	16.2	3.2	26.1	*35.8*	*88.0*	*56.5*	*29.5*	*21.7*	*23.4*	*26.7*	*58.1*	*19.9*	*21.9*
1997	238.2	41.1	69.5	63.4	42.2	18.2	3.7	26.2	*37.0*	*88.7*	*58.6*	*31.3*	*22.5*	*24.3*	*28.6*	*59.5*	*19.3*	*21.2*
1998	240.6	43.0	67.8	62.4	43.9	19.6	3.9	26.3	*37.8*	*89.1*	*59.7*	*32.3*	*23.3*	*24.8*	*29.0*	*60.9*	*18.3*	*20.8*
1999	241.9	43.0	67.5	61.2	45.0	20.8	4.3	26.4	*38.9*	*89.0*	*61.0*	*33.6*	*24.3*	*25.6*	*30.2*	*61.8*	*18.2*	*19.9*
2000	238.6	41.1	67.5	59.1	43.9	22.3	4.7	26.5	*39.5*	*89.7*	*62.6*	*34.6*	*24.4*	*26.2*	*31.0*	*62.7*	*18.2*	*19.2*
2001	238.1	39.5	68.1	56.8	45.2	23.3	5.1	26.7	*40.0*	*89.5*	*62.6*	*35.5*	*25.3*	*26.9*	*31.6*	*63.2*	*18.4*	*18.4*
2002	242.0	38.9	70.2	55.8	46.4	25.1	5.6	26.8	*40.6*	*89.5*	*63.3*	*36.4*	*25.7*	*27.7*	*32.2*	*63.7*	*18.5*	*17.8*
2003	257.2	39.9	75.7	58.2	49.2	27.8	6.4	26.9	*41.4*	*90.2*	*64.9*	*37.1*	*26.3*	*28.5*	*33.3*	*63.5*	*19.0*	*17.4*
2004	269.7	41.0	79.8	61.4	50.7	29.7	7.1	27.0	*42.2*	*91.0*	*65.9*	*38.4*	*26.6*	*29.0*	*34.0*	*63.6*	*19.6*	*16.8*
2005	276.5	41.2	82.1	64.4	50.8	30.3	7.7	27.0	*42.8*	*91.8*	*67.2*	*39.2*	*27.0*	*29.1*	*34.8*	*63.5*	*20.2*	*16.3*
2006	291.4	42.3	87.7	69.3	51.4	32.2	8.4	27.0	*43.5*	*93.0*	*68.6*	*40.1*	*27.1*	*29.2*	*35.5*	*63.7*	*20.7*	*15.6*
2007	305.6	41.7	91.9	76.0	53.0	34.0	9.0	27.1	*44.3*	*93.1*	*70.3*	*41.6*	*27.7*	*29.5*	*35.5*	*65.0*	*20.1*	*15.0*
2008	320.8	42.0	97.7	82.6	54.4	34.6	9.5	27.1	*45.3*	*93.9*	*71.9*	*42.8*	*28.3*	*29.8*	*35.9*	*65.5*	*20.3*	*14.2*
2009[p]	326.2	40.9	100.1	85.6	55.8	34.1	9.6	27.1	*46.2*	*94.6*	*73.6*	*44.1*	*29.1*	*29.9*	*35.7*	*65.7*	*20.9*	*13.4*
2003 March	61.0	9.8	18.0	13.9	11.6	6.3	1.5	26.8	*41.4*	*90.1*	*64.5*	*37.0*	*26.4*	*27.8*	*33.3*	*63.0*	*18.9*	*18.1*
June	62.8	9.6	18.3	14.2	12.2	6.9	1.6	27.0	*40.5*	*90.0*	*64.0*	*36.2*	*25.7*	*28.3*	*33.7*	*64.0*	*18.5*	*17.5*
Sept	67.6	10.3	20.0	15.3	13.0	7.3	1.7	26.9	*41.5*	*90.2*	*65.6*	*37.3*	*26.4*	*28.6*	*33.3*	*63.7*	*19.3*	*16.9*
Dec	65.8	10.2	19.5	14.8	12.5	7.2	1.6	26.9	*42.2*	*90.4*	*65.6*	*38.0*	*26.8*	*29.4*	*32.9*	*63.3*	*19.4*	*17.3*
2004 March	65.2	10.1	19.3	14.8	12.5	7.0	1.7	26.9	*42.0*	*91.2*	*65.8*	*38.2*	*26.8*	*28.2*	*34.3*	*63.1*	*19.4*	*17.4*
June	65.2	9.8	19.1	14.9	12.5	7.3	1.7	27.0	*41.4*	*91.0*	*65.1*	*37.7*	*26.2*	*28.8*	*34.5*	*63.9*	*19.5*	*16.7*
Sept	70.2	10.7	20.7	16.1	13.0	7.9	1.8	27.0	*42.4*	*91.2*	*66.1*	*38.6*	*26.5*	*30.0*	*33.5*	*63.7*	*19.7*	*16.6*
Dec	69.1	10.5	20.7	15.7	12.7	7.5	1.9	26.9	*42.7*	*90.6*	*66.6*	*39.0*	*27.0*	*29.0*	*33.9*	*63.6*	*19.8*	*16.6*
2005 March	66.3	10.1	19.6	15.2	12.2	7.3	1.9	27.0	*43.0*	*92.0*	*67.0*	*39.0*	*27.1*	*29.6*	*35.2*	*63.1*	*20.3*	*16.6*
June	66.6	9.8	19.7	15.4	12.5	7.4	1.8	27.0	*41.7*	*91.2*	*66.5*	*38.2*	*26.4*	*28.1*	*33.5*	*63.7*	*19.8*	*16.5*
Sept	73.7	10.9	22.1	17.3	13.4	7.9	2.1	26.9	*43.3*	*92.0*	*68.0*	*39.6*	*27.2*	*29.3*	*35.7*	*63.7*	*20.3*	*16.0*
Dec	69.9	10.4	20.7	16.5	12.6	7.7	2.0	27.0	*43.2*	*92.1*	*67.4*	*39.8*	*27.3*	*29.4*	*34.8*	*63.5*	*20.3*	*16.2*
2006 March	68.7	10.3	20.8	16.0	12.0	7.6	1.9	26.9	*43.1*	*93.1*	*68.1*	*39.4*	*26.5*	*28.9*	*34.4*	*63.1*	*20.9*	*16.0*
June	71.4	10.5	21.2	16.9	12.8	7.8	2.1	27.0	*43.0*	*92.6*	*68.0*	*39.4*	*26.9*	*28.8*	*35.0*	*63.7*	*20.6*	*15.6*
Sept	76.8	11.1	23.1	18.6	13.4	8.4	2.2	27.0	*43.9*	*92.8*	*69.0*	*40.7*	*27.3*	*29.2*	*36.9*	*64.1*	*20.5*	*15.4*
Dec	74.5	10.3	22.6	17.8	13.2	8.4	2.2	27.1	*44.1*	*93.3*	*69.2*	*40.9*	*27.8*	*29.8*	*35.7*	*63.6*	*21.0*	*15.4*
2007 March	72.5	10.2	21.7	17.6	12.6	8.2	2.2	27.1	*44.2*	*93.5*	*69.8*	*41.3*	*27.5*	*29.8*	*35.1*	*64.0*	*20.5*	*15.5*
June	73.5	9.9	21.8	18.3	13.0	8.3	2.2	27.1	*43.4*	*92.6*	*69.5*	*41.0*	*27.2*	*28.8*	*35.2*	*65.1*	*19.9*	*14.9*
Sept	80.8	11.1	24.4	20.4	13.9	8.8	2.2	27.0	*44.5*	*93.2*	*70.5*	*41.9*	*27.8*	*29.6*	*35.0*	*65.2*	*20.1*	*14.7*
Dec	78.7	10.6	24.0	19.7	13.5	8.7	2.4	27.1	*45.0*	*93.1*	*71.3*	*42.2*	*28.3*	*29.6*	*36.5*	*65.3*	*19.9*	*14.8*
2008 March	78.6	10.5	23.9	20.0	13.3	8.6	2.3	27.1	*45.2*	*94.3*	*71.1*	*42.8*	*28.3*	*29.9*	*35.9*	*65.3*	*20.0*	*14.7*
June	79.4	10.3	23.9	20.5	13.7	8.6	2.4	27.1	*44.9*	*93.5*	*71.5*	*42.3*	*28.4*	*29.5*	*35.8*	*66.0*	*19.8*	*14.2*
Sept	83.1	10.8	25.5	21.6	13.9	8.9	2.4	27.0	*45.5*	*94.0*	*72.4*	*43.0*	*28.2*	*30.1*	*36.2*	*65.8*	*20.4*	*13.8*
Dec	79.8	10.4	24.5	20.6	13.4	8.5	2.4	27.0	*45.5*	*93.7*	*72.5*	*43.2*	*28.2*	*29.6*	*35.8*	*64.9*	*21.1*	*14.0*
2009 March[p]	77.8	10.3	23.9	20.2	13.0	8.1	2.3	27.0	*46.0*	*94.4*	*72.8*	*43.9*	*28.7*	*29.6*	*35.0*	*64.9*	*21.2*	*13.9*
June[p]	79.4	9.9	24.3	20.8	13.6	8.4	2.4	27.1	*45.4*	*94.4*	*73.1*	*43.1*	*28.5*	*29.4*	*35.2*	*65.7*	*20.7*	*13.6*
Sept[p]	84.4	10.3	26.0	22.3	14.6	8.8	2.4	27.1	*46.6*	*94.7*	*74.0*	*44.4*	*29.5*	*30.5*	*35.7*	*66.1*	*20.7*	*13.2*
Dec[p]	84.5	10.3	25.9	22.3	14.6	8.8	2.5	27.1	*46.7*	*94.8*	*74.3*	*45.0*	*29.7*	*29.9*	*36.7*	*66.0*	*21.1*	*13.0*

1 Unstandardised and therefore takes no account of the age structure of the population.
2 Births outside marriage can be registered by both the mother and father (joint) or by the mother alone (sole).
3 Usual address(es) of parents.
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Table 4.1 **Conceptions by age of woman at conception, 1990–2009**

England and Wales residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
		(a) numbers (thousands)								
1990		871.5	8.1	44.8	113.3	244.5	284.2	161.4	56.0	12.0
1991		853.7	7.5	40.1	101.6	233.3	281.5	167.5	57.6	12.1
1992		828.0	7.2	37.6	93.4	215.9	274.9	172.0	59.6	12.2
1993		819.0	7.3	35.8	87.2	203.6	271.7	181.0	63.0	12.6
1994		801.6	7.8	36.1	85.4	190.4	261.8	185.0	66.2	12.9
1995		790.3	8.1	37.9	86.6	181.1	250.3	190.3	68.7	13.2
1996		816.9	8.9	43.5	94.9	179.8	252.6	200.0	75.5	14.1
1997		800.4	8.3	43.4	96.0	167.3	242.6	200.9	78.9	14.7
1998		797.0	8.5	44.1	101.6	163.3	232.4	201.4	82.9	15.4
1999		774.0	7.9	42.0	98.8	157.6	218.5	197.1	86.0	16.0
2000		767.0	8.1	41.3	97.7	159.0	209.3	195.3	88.7	17.0
2001		763.7	7.9	41.0	96.0	161.6	199.3	196.7	92.2	17.8
2002		787.0	7.9	42.0	97.1	167.8	199.4	204.3	98.9	19.6
2003		806.8	8.0	42.2	98.6	175.3	199.8	209.0	103.1	20.9
2004		826.8	7.6	42.2	101.3	181.3	205.1	209.6	106.8	22.8
2005		841.8	7.9	42.3	102.3	185.5	211.3	209.2	110.0	23.6
2006		870.0	7.8	41.8	103.1	191.2	222.2	212.4	115.4	25.5
2007		895.9	8.2	43.0	106.3	198.7	234.8	211.5	118.0	26.5
2008[1,p]		887.8	7.6	41.3	103.2	198.3	237.6	206.9	115.5	26.4
1996	March	206.3	2.3	10.9	24.2	47.3	64.0	49.2	18.3	3.4
	June	200.8	2.3	10.9	23.7	44.6	61.9	48.7	18.2	3.6
	Sept	202.6	2.1	10.5	22.6	43.1	63.2	50.8	19.2	3.6
	Dec	207.2	2.1	11.2	24.2	44.9	63.5	51.2	19.8	3.6
1997	March	194.1	2.0	10.6	23.2	41.6	59.4	47.7	18.6	3.6
	June	198.5	2.2	11.0	23.9	41.8	59.9	49.8	19.5	3.8
	Sept	199.2	2.0	10.4	23.3	40.4	60.7	51.2	19.9	3.6
	Dec	208.6	2.1	11.4	25.6	43.5	62.6	52.2	20.8	3.8
1998	March	196.5	2.1	11.2	25.3	41.1	57.7	48.9	19.9	3.6
	June	196.0	2.1	11.0	25.3	40.5	56.8	49.0	20.5	3.8
	Sept	200.8	2.1	10.7	24.7	40.0	59.1	51.9	21.1	3.9
	Dec	203.7	2.1	11.2	26.3	41.7	58.9	51.5	21.3	4.0
1999	March	191.5	1.9	10.4	24.9	39.6	54.3	48.4	20.6	3.8
	June	190.4	2.0	10.5	24.4	39.1	53.8	47.9	21.2	4.1
	Sept	194.0	2.0	10.4	24.1	38.4	54.7	50.7	22.1	4.1
	Dec	198.0	2.1	10.8	25.4	40.5	55.6	50.2	22.2	4.1
2000	March	193.1	2.0	10.5	25.1	40.4	53.2	48.3	21.9	4.2
	June	188.7	2.1	10.4	24.3	39.3	51.5	47.5	21.8	4.3
	Sept	190.0	2.1	10.0	23.5	38.4	52.0	49.7	22.2	4.2
	Dec	195.2	2.0	10.4	24.7	40.9	52.7	49.8	22.7	4.3
2001	March	189.2	1.9	10.2	24.3	40.4	50.0	47.8	22.3	4.4
	June	187.4	2.1	10.2	24.0	39.8	48.8	47.7	22.8	4.4
	Sept	189.3	1.9	10.0	23.1	39.2	49.5	49.9	23.2	4.4
	Dec	197.9	2.0	10.6	24.6	42.3	51.1	51.3	23.9	4.7
2002	March	191.6	1.9	10.3	24.1	41.3	48.8	49.0	23.7	4.6
	June	190.4	2.0	10.5	24.2	40.7	48.2	48.8	23.8	4.8
	Sept	197.4	2.0	10.2	23.4	41.4	50.2	52.4	25.2	4.9
	Dec	207.6	2.0	11.0	25.4	44.4	52.3	54.2	26.2	5.2
2003	March	198.2	1.9	10.5	24.5	42.9	49.4	51.2	25.2	4.9
	June	198.5	2.1	10.8	24.7	43.2	49.1	51.1	25.2	5.2
	Sept	200.1	2.0	10.2	23.7	43.1	49.3	52.8	26.1	5.2
	Dec	210.0	2.0	10.7	25.7	46.1	52.0	54.0	26.7	5.6
2004	March	207.9	2.0	10.9	26.2	45.9	51.1	52.6	26.6	5.6
	June	200.1	1.9	10.6	25.0	43.7	49.3	50.4	25.9	5.7
	Sept	203.6	1.8	10.0	24.0	44.1	50.7	52.7	26.6	5.6
	Dec	215.2	1.9	10.8	26.1	47.7	54.0	54.0	27.6	5.8

Notes: Conception figures are estimates derived from birth registrations and abortion notifications.
Rates for women of all ages, under 16, under 18, under 20 and 40 and over are based on the population of women aged 15–44, 13–15, 15–17, 15–19 and 40–44 respectively.
Revised mid–2002 to mid–2008 population estimates published on 13 May 2010 have been used in the calculation of conception rates. Figures may therefore differ from those published previously.
For a quarterly analysis of conceptions to women under 18 for local authority areas see the National Statistics website www.statistics.gov.uk/statbase/product.asp?vlnk=15055

1 Provisional figures for conceptions in 2008 and 2009 exclude maternities relating to births in 2009 and 2010 where the mother's age was not recorded.

2 Provisional quarterly rates for 2009 are calculated using the 2008-based population projections for 2009 and the 2010 revised population estimates for 2008.

p provisional

Source: Office for National Statistics (ONS)

Table 4.1 continued **Conceptions by age of woman at conception, 1990–2009**

England and Wales residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
2005	March	204.6	1.9	10.4	25.1	45.4	50.8	51.0	26.6	5.7
	June	204.7	2.0	10.5	25.1	45.2	51.0	50.7	26.9	5.8
	Sept	210.9	2.0	10.4	25.3	45.6	53.3	53.1	27.5	6.0
	Dec	221.7	2.0	11.0	26.8	49.3	56.2	54.3	29.1	6.0
2006	March	214.0	1.8	10.2	25.4	47.5	54.2	52.4	28.3	6.2
	June	212.6	2.1	10.6	25.7	46.9	53.8	51.4	28.3	6.5
	Sept	215.1	2.0	10.0	24.7	46.3	55.3	53.6	28.9	6.4
	Dec	228.2	2.0	11.0	27.3	50.6	58.9	55.1	29.9	6.5
2007	March	221.6	2.0	10.8	26.7	49.4	57.0	52.7	29.3	6.5
	June	221.3	2.1	10.9	26.9	49.3	57.5	52.0	29.0	6.5
	Sept	222.7	2.0	10.4	25.7	48.6	58.9	53.0	29.8	6.7
	Dec	230.3	2.0	10.9	27.0	51.3	61.4	53.9	29.9	6.8
2008	March[1,p]	224.3	2.0	10.7	26.9	49.9	59.3	52.4	29.2	6.7
	June[1,p]	216.1	2.0	10.6	26.0	48.7	57.2	49.6	28.1	6.5
	Sept[1,p]	221.1	1.8	9.9	24.7	48.8	59.6	52.1	29.1	6.7
	Dec[1,p]	226.4	1.8	10.1	25.6	50.9	61.5	52.8	29.0	6.5
2009	March[1,p]	224.0	1.9	9.8	25.2	50.2	60.1	52.6	29.2	6.7
		(b) rates (conceptions per thousand women in age-group)								
1990		79.2	9.5	47.7	68.0	124.0	138.0	89.7	33.6	6.6
1991		77.7	8.9	44.6	64.1	120.2	135.1	90.1	34.4	6.6
1992		76.3	8.4	43.5	61.9	113.9	132.0	90.1	35.2	6.9
1993		76.2	8.1	42.4	59.7	110.5	131.7	92.5	36.6	7.4
1994		74.8	8.3	41.9	58.7	107.3	128.3	92.1	37.6	7.6
1995		73.8	8.6	41.9	58.7	105.8	124.8	92.8	38.1	7.9
1996		76.2	9.5	46.3	63.2	110.1	127.6	96.3	40.7	8.4
1997		74.6	8.9	45.9	62.6	107.2	124.7	96.2	41.4	8.7
1998		74.2	9.0	47.1	65.1	107.7	122.2	96.8	42.4	8.9
1999		71.9	8.3	45.1	63.1	103.9	118.0	95.3	42.9	9.1
2000		70.9	8.3	43.9	62.5	103.2	115.7	95.3	43.2	9.4
2001		70.3	8.0	42.7	60.8	102.5	114.2	96.7	44.3	9.6
2002		72.2	7.9	42.9	60.6	104.4	119.0	101.7	47.0	10.3
2003		73.7	7.9	42.3	59.9	107.1	122.2	106.1	49.1	10.7
2004		75.2	7.5	41.8	60.3	108.8	125.3	109.7	51.0	11.4
2005		76.0	7.8	41.5	60.0	108.6	125.9	112.1	53.2	11.5
2006		78.3	7.8	40.9	60.2	109.3	129.6	117.7	56.3	12.3
2007		80.5	8.3	42.0	61.7	111.4	133.5	122.0	58.2	12.6
2008[1,2,p]		79.9	7.8	40.7	60.1	108.6	133.1	121.6	58.1	12.6
1996	March	77.4	10.0	47.5	65.4	114.4	129.3	95.8	40.1	8.1
	June	75.3	9.8	46.9	63.7	109.1	125.6	94.6	39.7	8.6
	Sept	75.2	9.1	44.4	59.8	105.6	127.3	97.4	41.1	8.5
	Dec	76.9	9.0	47.3	63.7	111.2	128.4	97.9	42.0	8.5
1997	March	73.4	8.6	45.5	61.8	106.3	123.0	92.8	40.0	8.5
	June	74.2	9.4	46.8	62.6	106.7	123.2	95.7	41.3	8.9
	Sept	73.7	8.5	44.0	60.2	103.0	124.2	97.4	41.4	8.4
	Dec	77.1	8.9	47.9	65.7	111.8	128.7	99.4	43.0	8.9
1998	March	74.3	9.1	48.4	66.1	108.8	121.9	95.2	41.8	8.5
	June	73.2	9.0	47.2	65.1	106.7	119.3	94.5	42.3	8.9
	Sept	74.2	8.9	45.5	62.9	104.6	123.7	99.1	42.7	9.0
	Dec	75.2	8.9	47.4	66.8	109.0	124.1	98.5	42.8	9.2
1999	March	72.2	8.0	45.3	64.5	105.9	117.8	94.6	42.0	8.8
	June	71.0	8.6	45.0	62.5	103.3	116.3	92.8	42.5	9.3
	Sept	71.4	8.1	44.2	61.1	100.2	117.6	97.3	43.5	9.1
	Dec	72.8	8.5	45.7	64.3	105.4	120.1	96.5	43.6	9.2
2000	March	71.9	8.5	45.2	64.6	106.0	117.1	94.5	43.4	9.4
	June	70.2	8.5	44.5	62.5	102.9	114.0	93.1	42.9	9.6
	Sept	69.8	8.4	42.0	59.9	98.8	114.9	96.5	42.9	9.3
	Dec	71.6	8.0	43.6	62.6	104.8	117.4	97.0	43.8	9.4
2001	March	70.7	7.8	43.3	62.7	104.8	114.5	95.0	43.7	9.7
	June	69.2	8.4	42.8	61.0	101.4	111.6	94.0	44.0	9.5
	Sept	69.1	7.7	41.1	57.9	98.4	113.1	97.6	44.2	9.3
	Dec	72.1	8.1	43.5	61.5	105.6	117.9	100.5	45.4	10.0
2002	March	71.3	7.7	43.0	61.5	105.0	116.3	98.5	45.8	9.9
	June	70.1	8.1	43.0	60.6	101.8	114.7	97.2	45.5	10.2
	Sept	71.8	7.7	41.3	57.7	102.0	119.2	103.7	47.6	10.2
	Dec	75.5	8.0	44.2	62.3	108.8	124.8	107.7	49.5	10.7

See notes on first page of table

Table 4.1 continued **Conceptions by age of woman at conception, 1990–2009**

England and Wales residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
2003	March	73.6	7.8	42.9	61.0	107.2	121.4	104.7	48.6	10.3
	June	72.8	8.3	43.4	60.4	106.1	120.1	103.7	48.1	10.8
	Sept	72.5	7.9	40.6	56.9	104.2	119.6	106.7	49.3	10.5
	Dec	76.0	7.8	42.6	61.4	110.9	126.1	109.9	50.5	11.2
2004	March	76.2	7.8	43.4	63.1	111.4	125.5	109.4	51.1	11.4
	June	73.2	7.7	42.2	60.0	105.7	121.2	105.6	49.8	11.5
	Sept	73.6	7.1	39.2	56.7	104.9	122.7	110.0	50.6	11.1
	Dec	77.7	7.4	42.4	61.4	112.8	130.1	113.3	52.8	11.4
2005	March	75.1	7.6	41.5	60.0	108.7	123.9	109.9	51.9	11.4
	June	74.2	8.0	41.2	59.1	106.5	122.2	108.6	52.0	11.4
	Sept	75.5	7.8	40.6	59.0	105.6	125.7	113.4	52.8	11.6
	Dec	79.3	7.9	42.8	62.4	113.4	131.8	116.9	55.9	11.5
2006	March	78.2	7.1	40.5	60.3	111.0	129.2	116.3	55.7	12.2
	June	76.7	8.2	41.4	60.3	107.8	126.1	113.7	55.3	12.5
	Sept	76.8	7.7	38.8	57.2	104.6	127.5	118.3	56.0	12.1
	Dec	81.4	8.1	42.8	63.0	113.9	135.1	122.8	58.2	12.2
2007	March	80.8	8.1	43.0	63.0	113.2	132.7	121.3	58.4	12.6
	June	79.7	8.7	42.8	62.7	111.2	131.5	119.7	57.2	12.5
	Sept	79.4	8.2	40.1	59.1	107.9	132.7	121.5	58.5	12.6
	Dec	82.1	8.3	42.2	62.3	113.1	137.7	124.1	59.0	12.8
2008	March[1,2,p]	81.1	8.1	42.3	62.9	110.8	134.3	123.1	58.6	12.7
	June[1,2,p]	78.2	8.1	41.8	60.8	107.6	129.1	116.9	56.7	12.5
	Sept[1,2,p]	79.1	7.6	38.8	57.3	106.0	132.5	121.9	58.5	12.7
	Dec[1,2,p]	81.1	7.6	40.0	59.5	110.2	136.1	123.4	58.7	12.4
2009	March[1,2,p]	81.8	7.8	39.5	59.8	110.2	134.9	125.4	60.7	12.9
		(c) percentage terminated by abortion								
1990		19.9	50.8	41.1	35.7	22.3	13.5	13.8	23.1	43.2
1991		19.4	51.1	39.9	34.5	22.2	13.4	13.7	22.0	41.6
1992		19.3	48.6	39.1	33.9	22.3	13.9	13.9	22.2	41.5
1993		19.2	49.8	39.2	34.3	22.8	13.9	13.5	21.5	40.2
1994		19.5	50.3	39.8	34.7	23.4	14.3	13.6	21.1	40.9
1995		19.7	47.6	38.7	34.6	24.2	14.8	13.6	20.7	38.0
1996		20.8	49.2	40.0	36.2	25.7	15.6	14.1	21.2	37.6
1997		21.3	49.7	40.6	36.8	26.7	16.4	14.2	21.0	38.0
1998		22.3	52.4	42.0	37.8	27.8	17.1	14.9	21.5	37.9
1999		22.6	52.6	43.0	38.6	28.5	17.5	14.7	21.2	37.0
2000		22.7	54.0	44.2	39.3	29.2	17.7	14.5	20.5	35.4
2001		23.2	55.8	45.7	40.4	29.7	18.4	14.6	20.4	34.6
2002		22.5	55.6	45.3	39.9	28.8	17.9	13.9	19.5	34.6
2003		22.5	57.4	45.7	40.2	29.0	17.9	13.6	18.9	34.7
2004		22.4	57.2	45.6	40.1	28.9	18.2	13.2	18.3	33.0
2005		22.2	57.1	46.3	40.3	28.6	18.0	13.2	17.7	32.8
2006		22.3	59.8	48.4	41.9	28.7	18.0	13.1	17.1	31.8
2007		22.0	61.5	50.0	42.6	28.2	17.5	12.7	16.7	31.1
2008[1,p]		21.8	61.6	49.4	42.4	28.0	17.4	12.9	16.3	30.0
1996	March	21.0	47.2	39.5	36.1	25.5	15.9	14.4	21.8	37.1
	June	21.3	49.2	40.7	36.6	26.5	16.0	14.4	21.8	38.2
	Sept	19.7	50.4	39.1	35.2	24.7	14.9	13.3	20.2	37.3
	Dec	21.1	50.2	40.8	37.0	26.3	15.8	14.2	21.0	37.9
1997	March	21.4	48.4	39.7	36.0	26.6	16.6	14.5	21.0	38.6
	June	21.7	49.5	40.3	36.7	27.1	16.8	14.6	21.9	39.1
	Sept	20.5	48.1	40.6	36.6	25.8	15.8	13.5	20.7	36.4
	Dec	21.6	52.5	41.6	37.6	27.2	16.5	14.3	20.6	37.8
1998	March	22.3	51.4	41.2	37.3	27.7	17.3	15.2	21.7	37.0
	June	22.8	52.7	42.2	38.2	28.4	17.6	15.3	22.2	38.9
	Sept	21.7	52.5	42.2	37.9	27.3	16.6	14.4	21.3	37.6
	Dec	22.2	53.0	42.3	37.7	28.0	17.0	14.7	21.0	38.2
1999	March	22.3	51.4	42.0	38 0	27.9	17.2	14.7	21.6	36.2
	June	23.0	52.9	43.5	38.6	28.6	18.0	15.5	21.5	37.8
	Sept	22.1	52.7	43.1	38.7	28.5	17.2	14.1	20.6	37.3
	Dec	22.8	53.5	43.6	39.1	29.2	17.7	14.7	21.2	36.6
2000	March	22.9	53.8	44.3	39.6	29.6	17.7	14.5	20.4	35.3
	June	23.2	55.1	44.4	39.2	29.7	18.1	15.1	20.9	35.1
	Sept	22.0	53.2	43.8	38.7	28.2	17.4	14.0	19.8	35.4
	Dec	22.8	54.0	44.1	39.8	29.2	17.5	14.4	20.8	35.9

See notes on first page of table

Table 4.1 continued **Conceptions by age of woman at conception, 1990–2009**

England and Wales — residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
2001	March	23.4	54.4	44.9	40.2	29.8	18.6	14.8	20.7	34.9
	June	23.8	58.8	47.0	41.1	30.3	18.6	15.3	21.0	36.0
	Sept	22.5	55.0	45.7	40.1	29.2	18.1	13.8	19.9	33.5
	Dec	22.9	54.9	45.2	40.0	29.5	18.1	14.4	20.2	34.1
2002	March	22.9	54.3	44.9	40.2	29.4	18.1	14.1	19.8	35.1
	June	22.9	55.6	45.0	39.4	28.9	18.4	14.5	20.1	34.8
	Sept	21.6	56.1	45.0	39.4	27.8	17.3	13.2	18.7	34.2
	Dec	22.6	56.4	46.3	40.7	29.0	17.8	13.9	19.4	34.5
2003	March	22.8	58.9	46.1	40.2	29.5	17.9	13.8	19.7	34.5
	June	23.1	58.3	46.2	40.9	29.3	18.4	14.2	19.2	36.1
	Sept	21.6	56.9	45.3	39.5	28.0	17.1	13.0	18.0	33.8
	Dec	22.5	55.7	45.0	40.3	29.0	18.1	13.5	18.5	34.5
2004	March	22.7	58.2	45.7	40.2	29.4	18.5	13.4	18.2	32.9
	June	23.0	57.2	46.3	40.8	29.2	18.6	13.7	19.2	33.5
	Sept	21.9	56.8	45.8	40.0	28.4	17.9	12.8	17.8	33.0
	Dec	22.0	56.3	44.5	39.3	28.6	17.8	13.0	18.2	32.5
2005	March	22.5	57.5	47.3	41.1	29.2	18.1	13.1	18.0	32.6
	June	22.7	57.0	45.8	40.3	28.9	18.6	13.9	17.8	33.8
	Sept	21.4	56.2	45.3	39.0	27.5	17.5	12.6	17.2	32.1
	Dec	22.2	57.5	46.9	40.6	28.7	17.8	13.1	17.7	32.7
2006	March	22.5	59.0	47.7	41.6	29.1	18.4	13.0	17.5	31.1
	June	23.1	59.5	49.0	42.5	29.6	18.8	13.9	17.8	31.6
	Sept	21.5	60.4	48.0	41.3	27.7	17.5	12.7	16.3	32.8
	Dec	22.0	60.2	49.1	42.0	28.3	17.4	12.8	16.9	31.7
2007	March	22.7	62.6	50.7	43.2	29.5	18.3	13.0	16.9	31.1
	June	22.5	61.9	50.3	43.1	28.6	18.0	12.8	16.9	31.5
	Sept	21.0	57.9	48.5	41.3	26.9	16.5	12.3	16.0	30.8
	Dec	21.8	63.6	50.4	42.6	28.0	17.2	12.5	16.8	30.8
2008	March[1,p]	22.6	62.2	50.6	43.8	28.9	17.9	13.1	16.8	31.2
	June[1,p]	22.4	61.5	49.0	42.3	28.4	18.2	13.2	16.8	29.9
	Sept[1,p]	21.2	61.7	48.9	41.7	27.4	16.9	12.6	15.6	29.6
	Dec[1,p]	21.2	60.7	49.0	41.6	27.4	16.6	12.5	16.0	29.1
2009	March[1,p]	21.4	59.0	48.9	41.8	27.7	16.8	12.8	16.0	29.3

See notes on first page of table

Table 4.2 Abortions: residents and non-residents; age and gestation (residents only)

England and Wales

Numbers (thousands) and rates; and percentages for gestation weeks

Year and quarter	All ages: All[1] women	All ages: Residents[1]	All ages: Non-[1] residents	All women (residents): Age group: Under 16	16–19	20–24	25–29	30–34	35–44	45 and over	Gestation weeks (percentages): Under 9	9–12	13–19	20 and over
Numbers (thousands)											**Percentages**			
1971	126.8	94.6	32.2	2.3	18.2	24.5	17.3	14.2	15.9	0.5	*16.6*	*57.9*	*21.8*	*1.0*
1976	129.7	101.9	27.8	3.4	24.0	23.6	19.3	14.6	14.7	0.5	*24.8*	*55.8*	*15.0*	*1.1*
1981	162.5	128.6	33.9	3.5	31.4	34.3	21.9	18.7	17.6	0.6	*31.0*	*53.4*	*13.5*	*1.3*
1986	172.3	147.6	24.7	3.9	33.8	45.3	28.7	18.0	17.5	0.4	*33.4*	*53.8*	*11.5*	*1.4*
1991	179.5	167.4	12.1	3.2	31.1	52.7	38.6	23.4	17.9	0.4	*35.2*	*52.9*	*10.6*	*1.2*
1996	177.5	167.9	9.6	3.6	28.8	46.4	39.3	28.2	21.1	0.4	*40.0*	*48.7*	*10.1*	*1.3*
1997	179.7	170.1	9.6	3.4	29.9	45.0	40.2	28.9	22.3	0.5	*41.2*	*47.9*	*9.6*	*1.2*
1998	187.4	177.9	9.5	3.8	33.2	45.8	40.4	30.4	23.8	0.5	*41.4*	*47.6*	*9.7*	*1.3*
1999	183.2	173.7	9.5	3.6	32.8	45.0	38.5	29.1	24.1	0.5	*42.5*	*46.5*	*9.5*	*1.4*
2000	185.4	175.5	9.8	3.7	33.2	47.1	37.9	28.7	24.4	0.5	*43.2*	*45.0*	*10.3*	*1.5*
2001	186.3	176.4	9.9	3.7	33.4	48.3	36.5	28.8	25.2	0.5	*42.8*	*45.0*	*10.6*	*1.6*
2002	185.4	175.9	9.5	3.7	33.0	48.4	35.8	28.5	26.0	0.5	*42.2*	*45.2*	*11.0*	*1.6*
2003	190.7	181.6	9.1	4.0	34.2	51.1	36.0	28.7	26.9	0.5	*43.6*	*43.7*	*11.1*	*1.6*
2004	194.5	185.7	8.8	3.8	35.5	52.8	37.8	28.1	27.3	0.5	*46.2*	*41.5*	*10.8*	*1.6*
2005	194.4	186.4	7.9	3.8	35.3	53.3	38.3	27.8	27.2	0.6	*53.6*	*35.7*	*9.3*	*1.4*
2006	201.2	193.7	7.4	4.0	37.3	55.3	40.4	28.2	27.9	0.7	*54.9*	*34.3*	*9.2*	*1.5*
2007	205.6	198.5	7.1	4.4	39.6	57.0	41.7	27.3	27.9	0.7	*57.9*	*31.9*	*8.8*	*1.5*
2008	202.2	195.3	6.9	4.1	38.6	56.2	41.9	27.0	26.9	0.7	*61.6*	*28.7*	*8.2*	*1.5*
2009	195.7	189.1	6.6	3.8	36.2	54.7	40.6	26.7	26.2	0.7	*64.3*	*26.3*	*8.0*	*1.5*
2005 March	50.1	47.9	2.1	0.9	9.1	13.9	9.7	7.2	7.0	0.1	*47.2*	*40.4*	*11.0*	*1.4*
June	50.1	48.0	2.1	1.0	9.2	13.9	9.9	7.1	6.9	0.1	*53.8*	*35.6*	*9.2*	*1.4*
Sept	47.0	45.1	1.9	1.0	8.5	12.7	9.3	6.9	6.7	0.1	*56.5*	*33.6*	*8.5*	*1.3*
Dec	47.2	45.3	1.8	0.9	8.6	12.9	9.5	6.7	6.7	0.1	*57.2*	*32.9*	*8.3*	*1.5*
2006 March	52.4	50.4	2.0	1.0	9.8	14.6	10.4	7.2	7.3	0.2	*50.6*	*37.3*	*10.5*	*1.6*
June	51.3	49.3	2.0	1.0	9.4	14.2	10.3	7.2	7.1	0.2	*53.6*	*35.3*	*9.4*	*1.7*
Sept	49.8	47.9	1.8	1.0	9.2	13.6	10.0	7.0	6.9	0.2	*56.5*	*33.0*	*9.0*	*1.5*
Dec	47.7	46.0	1.6	1.0	8.8	13.0	9.6	6.7	6.7	0.1	*59.5*	*31.3*	*7.9*	*1.3*
2007 March	55.3	53.3	1.9	1.2	10.8	15.4	11.1	7.3	7.4	0.2	*54.1*	*35.0*	*9.4*	*1.6*
June	51.2	49.4	1.8	1.1	9.9	14.3	10.3	6.7	6.8	0.2	*56.6*	*32.6*	*9.2*	*1.5*
Sept	49.9	48.2	1.7	1.0	9.5	13.5	10.2	6.6	7.0	0.2	*58.6*	*31.2*	*8.8*	*1.4*
Dec	49.2	47.6	1.6	1.1	9.4	13.7	10.0	6.6	6.7	0.2	*62.7*	*28.3*	*7.6*	*1.4*
2008 March	53.4	51.6	1.8	1.1	10.5	14.8	10.8	7.0	7.2	0.2	*58.4*	*31.0*	*9.0*	*1.6*
June	52.5	50.8	1.8	1.1	10.1	14.6	10.9	6.9	7.0	0.2	*60.8*	*29.5*	*8.3*	*1.4*
Sept	48.7	47.0	1.7	1.0	9.2	13.4	10.3	6.5	6.5	0.2	*62.9*	*27.6*	*8.0*	*1.4*
Dec	47.5	45.9	1.6	1.0	8.8	13.3	9.9	6.5	6.2	0.2	*64.8*	*26.2*	*7.6*	*1.4*
2009 March	51.8	50.1	1.7	1.1	9.8	14.7	10.6	6.9	6.8	0.2	*60.9*	*28.5*	*8.9*	*1.7*
June	50.0	48.3	1.7	0.9	9.2	14.1	10.4	6.8	6.6	0.2	*64.1*	*26.8*	*7.8*	*1.3*
Sept	47.7	46.0	1.7	1.0	8.8	13.1	10.0	6.5	6.5	0.2	*64.7*	*25.9*	*7.9*	*1.5*
Dec	46.2	44.7	1.5	0.8	8.4	12.9	9.6	6.5	6.3	0.2	*67.8*	*23.7*	*7.1*	*1.4*
Rates (per thousand women residents)														
	ASR[2] (women 15–44)	Crude rate[3] (women 15–44)												
1971	9.9	10.1	:	2.3	13.9	13.1	10.7	10.0	5.6	0.3				
1976	10.2	10.5	:	2.9	16.9	14.2	10.4	9.2	5.3	0.3				
1981	11.9	12.4	:	3.0	19.4	18.6	13.1	10.1	5.9	0.4				
1986	13.0	13.5	:	3.7	22.0	21.9	15.5	10.8	5.1	0.3				
1991	15.0	15.2	:	3.8	24.0	27.1	18.5	12.6	5.1	0.3				
1996	16.0	15.7	:	3.9	24.2	28.4	19.9	13.6	6.0	0.2				
1997	16.3	15.9	:	3.7	24.4	28.8	20.7	13.8	6.2	0.3				
1998	17.1	16.6	:	4.0	26.8	30.2	21.2	14.6	6.5	0.3				
1999	16.8	16.2	:	3.8	26.3	29.7	20.8	14.1	6.4	0.3				
2000	17.0	16.3	:	3.9	26.9	30.7	20.9	14.1	6.3	0.3				
2001	17.0	16.2	:	3.7	26.6	30.6	20.9	14.2	6.4	0.3				
2002	17.0	16.1	:	3.7	25.8	30.1	21.4	14.2	6.5	0.3				
2003	17.5	16.6	:	3.9	26.1	31.2	22.1	14.6	6.6	0.3				
2004	17.8	16.9	:	3.7	26.5	31.9	23.3	14.7	6.7	0.3				
2005	17.8	17.0	:	3.7	26.3	32.0	23.6	14.5	6.6	0.3				
2006	18.3	17.5	:	3.9	27.3	32.5	24.3	15.1	6.8	0.4				
2007	18.6	17.9	:	4.4	28.9	32.6	24.3	15.1	6.7	0.4				
2008	18.2	17.6	:	4.2	27.8	31.6	23.9	15.6	6.5	0.4				
2009	17.5	17.0	:	4.0	26.1	30.0	22.8	15.7	6.4	0.4				
2005 March	18.4	17.5	:	3.7	27.0	33.5	23.8	15.2	6.8	0.3				
June	18.4	17.5	:	3.8	27.2	33.3	24.1	15.3	6.7	0.3				
Sept	17.3	16.4	:	3.8	25.2	30.5	22.6	14.8	6.5	0.3				
Dec	17.4	16.5	:	3.6	25.4	30.9	23.0	14.4	6.5	0.3				
2006 March	19.3	18.4	:	3.9	29.0	34.8	25.0	15.9	7.0	0.3				
June	18.9	18.0	:	3.9	27.8	33.8	24.7	16.0	6.8	0.4				
Sept	18.3	17.5	:	4.0	27.0	32.2	23.9	15.9	6.7	0.4				
Dec	17.5	16.8	:	4.0	25.9	30.8	22.8	15.3	6.5	0.3				
2007 March	20.0	19.2	:	4.7	31.4	35.3	25.6	16.7	7.2	0.4				
June	18.5	17.8	:	4.4	28.8	32.7	23.7	15.5	6.6	0.4				
Sept	18.0	17.4	:	4.2	27.7	30.8	23.3	15.4	6.8	0.4				
Dec	17.8	17.2	:	4.4	27.2	31.1	22.7	15.3	6.5	0.4				
2008 March	19.1	18.5	:	4.7	30.4	32.6	24.1	16.3	7.0	0.4				
June	18.7	18.2	:	4.4	29.3	32.1	24.1	16.0	6.9	0.3				
Sept	17.3	16.9	:	4.0	26.6	29.3	22.6	15.3	6.3	0.4				
Dec	16.9	16.4	:	4.1	25.4	29.0	21.5	15.2	6.1	0.3				
2009 March	18.5	18.1	:	4.4	28.5	31.9	23.5	16.3	6.7	0.4				
June	17.8	17.4	:	4.0	26.7	30.4	22.9	16.0	6.6	0.3				
Sept	16.9	16.6	:	4.1	25.6	28.1	21.9	15.3	6.4	0.4				
Dec	16.4	16.1	:	3.5	24.4	27.6	21.0	15.2	6.3	0.4				

Notes: Rates for under 16 and 45 and over are based on female populations aged 13-15 and 45-49 respectively.

1 Includes cases with not stated age and/or gestation week.

2 Rates for all women residents age-standardised to the European population for ages 15-44.

3 Includes incomplete forms that have been returned to practitioners.

Table 5.1 Period expectation of life at birth and selected ages, UK and constituent countries

Constituent countries of the United Kingdom

Years

Year	Males: At birth	Males: At age 5	20	30	50	60	70	80	Year	Females: At birth	Females: At age 5	20	30	50	60	70	80
United Kingdom																	
1981	70.8	66.9	52.3	42.7	24.1	16.3	10.1	5.8	1981	76.8	72.7	57.9	48.2	29.2	20.8	13.3	7.5
1986	71.9	67.8	53.2	43.6	24.9	16.8	10.5	6.0	1986	77.7	73.4	58.6	48.8	29.8	21.2	13.8	7.8
1991	73.2	68.9	54.2	44.7	26.0	17.7	11.1	6.4	1991	78.7	74.3	59.5	49.7	30.6	21.9	14.3	8.2
1996	74.2	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1996	79.4	74.9	60.1	50.3	31.2	22.3	14.5	8.3
2000	75.3	70.9	56.1	46.6	28.0	19.5	12.3	7.0	2000	80.1	75.6	60.8	51.0	31.9	23.0	15.0	8.6
2001	75.6	71.2	56.4	46.9	28.2	19.7	12.5	7.1	2001	80.4	75.8	61.0	51.2	32.1	23.2	15.1	8.7
2002	75.9	71.4	56.6	47.1	28.5	19.9	12.6	7.1	2002	80.5	75.9	61.1	51.3	32.2	23.3	15.2	8.7
2003	76.2	71.7	56.9	47.4	28.7	20.2	12.8	7.3	2003	80.7	76.1	61.3	51.5	32.4	23.4	15.3	8.7
2004	76.5	72.0	57.3	47.7	29.0	20.5	13.1	7.4	2004	80.9	76.4	61.5	51.7	32.6	23.6	15.5	8.8
2005	76.9	72.4	57.6	48.0	29.4	20.8	13.4	7.6	2005	81.3	76.7	61.9	52.0	32.9	23.9	15.8	9.0
2006	77.2	72.7	57.9	48.3	29.6	21.1	13.6	7.7	2006	81.5	76.9	62.0	52.2	33.1	24.1	15.9	9.1
2007	77.4	72.9	58.1	48.5	29.9	21.3	13.8	7.8	2007	81.6	77.1	62.2	52.4	33.2	24.3	16.1	9.2
England and Wales																	
1981	71.0	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.1	48.3	29.4	20.9	13.4	7.5
1986	72.1	68.0	53.4	43.8	25.0	16.9	10.5	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.8	26.1	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.3	45.8	27.1	18.6	11.6	6.6	1996	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
2000	75.6	71.1	56.4	46.8	28.1	19.6	12.3	7.0	2000	80.3	75.8	60.9	51.1	32.0	23.1	15.1	8.6
2001	75.9	71.4	56.7	47.1	28.4	19.9	12.5	7.1	2001	80.5	76.0	61.2	51.3	32.2	23.3	15.2	8.7
2002	76.1	71.6	56.9	47.3	28.6	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.3	23.4	15.3	8.7
2003	76.4	71.9	57.2	47.6	28.9	20.3	12.9	7.3	2003	80.9	76.3	61.5	51.7	32.5	23.6	15.4	8.8
2004	76.8	72.3	57.5	47.9	29.2	20.6	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.7	23.8	15.6	8.9
2005	77.2	72.7	57.9	48.3	29.6	21.0	13.5	7.6	2005	81.5	76.9	62.0	52.2	33.1	24.1	15.9	9.1
2006	77.4	72.9	58.2	48.5	29.8	21.2	13.7	7.7	2006	81.7	77.1	62.2	52.4	33.2	24.3	16.0	9.2
2007	77.7	73.2	58.4	48.8	30.0	21.4	13.9	7.8	2007	81.8	77.3	62.4	52.6	33.4	24.4	16.2	9.2
England																	
1981	71.1	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.2	48.4	29.4	20.9	13.4	7.5
1986	72.2	68.1	53.4	43.8	25.1	17.0	10.6	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.9	26.2	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.4	45.8	27.1	18.7	11.7	6.6	1996	79.6	75.1	60.3	50.4	31.3	22.5	14.6	8.4
2000	75.6	71.2	56.4	46.9	28.2	19.6	12.4	7.0	2000	80.3	75.8	61.0	51.2	32.0	23.1	15.1	8.6
2001	75.9	71.4	56.7	47.1	28.5	19.9	12.6	7.1	2001	80.6	76.0	61.2	51.4	32.2	23.3	15.2	8.7
2002	76.1	71.7	56.9	47.4	28.7	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.4	23.4	15.3	8.7
2003	76.5	72.0	57.2	47.6	28.9	20.4	12.9	7.3	2003	80.9	76.4	61.5	51.7	32.6	23.6	15.4	8.8
2004	76.8	72.3	57.6	48.0	29.2	20.7	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.8	23.8	15.6	8.9
2005	77.2	72.7	57.9	48.3	29.6	21.0	13.5	7.6	2005	81.5	76.9	62.1	52.3	33.1	24.1	15.9	9.1
2006	77.5	73.0	58.2	48.6	29.8	21.2	13.7	7.7	2006	81.7	77.1	62.3	52.4	33.3	24.3	16.0	9.2
2007	77.7	73.2	58.4	48.8	30.1	21.5	13.9	7.9	2007	81.9	77.3	62.4	52.6	33.4	24.4	16.2	9.2
Wales																	
1981	70.4	66.5	51.9	42.2	23.6	15.8	9.7	5.6	1981	76.4	72.3	57.5	47.7	28.9	20.5	13.1	7.4
1986	71.6	67.5	52.8	43.2	24.6	16.6	10.3	6.0	1986	77.5	73.3	58.5	48.7	29.7	21.1	13.7	7.8
1991	73.1	68.8	54.1	44.6	25.8	17.6	11.0	6.4	1991	78.8	74.3	59.5	49.7	30.6	21.8	14.3	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.3	6.4	1996	79.1	74.6	59.7	49.9	30.9	22.1	14.4	8.3
2000	74.8	70.4	55.7	46.2	27.6	19.1	12.0	6.8	2000	79.7	75.2	60.4	50.6	31.5	22.6	14.7	8.4
2001	75.3	70.8	56.0	46.6	28.0	19.5	12.3	7.0	2001	80.0	75.4	60.6	50.8	31.7	22.8	14.9	8.5
2002	75.5	70.9	56.2	46.8	28.2	19.7	12.4	7.1	2002	80.1	75.5	60.7	50.9	31.8	22.9	15.0	8.6
2003	75.8	71.2	56.5	47.0	28.4	19.9	12.6	7.2	2003	80.3	75.7	60.9	51.1	32.0	23.1	15.1	8.6
2004	76.1	71.6	56.8	47.3	28.7	20.2	12.8	7.3	2004	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.7
2005	76.6	72.0	57.3	47.7	29.2	20.6	13.2	7.6	2005	80.9	76.3	61.5	51.6	32.6	23.7	15.5	8.9
2006	76.7	72.1	57.4	47.8	29.3	20.8	13.4	7.6	2006	81.1	76.5	61.6	51.8	32.7	23.8	15.7	9.0
2007	76.9	72.3	57.5	48.0	29.5	21.0	13.5	7.7	2007	81.2	76.6	61.8	51.9	32.9	23.9	15.9	9.1
Scotland																	
1981	69.1	65.2	50.6	41.1	22.9	15.4	9.6	5.5	1981	75.3	71.2	56.4	46.7	27.9	19.7	12.7	7.2
1986	70.2	66.0	51.4	41.9	23.5	15.8	9.9	5.7	1986	76.2	71.9	57.1	47.3	28.4	20.1	13.0	7.5
1991	71.4	67.1	52.5	43.0	24.6	16.6	10.4	6.1	1991	77.1	72.7	57.9	48.1	29.2	20.7	13.5	7.9
1996	72.2	67.8	53.1	43.7	25.3	17.3	10.9	6.3	1996	77.9	73.3	58.5	48.8	29.8	21.2	13.8	8.0
2000	73.1	68.6	53.9	44.6	26.3	18.2	11.5	6.6	2000	78.6	74.0	59.2	49.4	30.5	21.8	14.1	8.1
2001	73.3	68.8	54.2	44.8	26.6	18.4	11.7	6.8	2001	78.8	74.2	59.4	49.6	30.7	22.0	14.3	8.2
2002	73.5	69.0	54.3	45.0	26.7	18.6	11.8	6.8	2002	78.9	74.3	59.5	49.7	30.8	22.1	14.4	8.2
2003	73.8	69.3	54.6	45.2	27.0	18.8	12.0	6.9	2003	79.1	74.5	59.7	49.9	30.9	22.2	14.5	8.3
2004	74.2	69.7	55.0	45.6	27.3	19.1	12.2	7.0	2004	79.3	74.7	59.9	50.1	31.1	22.4	14.7	8.4
2005	74.6	70.1	55.4	45.9	27.7	19.4	12.5	7.2	2005	79.6	75.0	60.2	50.4	31.4	22.7	14.9	8.5
2006	74.8	70.3	55.5	46.1	27.9	19.6	12.6	7.2	2006	79.7	75.1	60.3	50.5	31.5	22.8	15.0	8.6
2007	75.0	70.4	55.7	46.3	28.1	19.9	12.8	7.3	2007	79.9	75.2	60.4	50.6	31.7	22.9	15.1	8.6
Northern Ireland																	
1981	69.2	65.4	50.9	41.5	23.2	15.6	9.7	5.8	1981	75.5	71.6	56.8	47.1	28.3	20.0	12.8	7.3
1986	70.9	66.8	52.2	42.7	24.2	16.4	10.4	6.2	1986	77.1	72.9	58.1	48.3	29.3	20.8	13.4	7.8
1991	72.6	68.2	53.6	44.1	25.5	17.3	11.0	6.4	1991	78.4	74.0	59.2	49.4	30.3	21.6	14.2	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.4	6.6	1996	79.2	74.7	59.9	50.0	30.9	22.1	14.4	8.4
2000	74.8	70.4	55.7	46.2	27.6	19.1	11.9	6.6	2000	79.8	75.2	60.4	50.6	31.5	22.6	14.6	8.2
2001	75.2	70.7	56.1	46.6	27.9	19.4	12.3	6.9	2001	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.4
2002	75.6	71.1	56.4	46.9	28.2	19.7	12.4	7.0	2002	80.4	75.9	61.0	51.2	32.0	23.1	15.1	8.5
2003	75.8	71.4	56.7	47.1	28.4	19.9	12.6	7.2	2003	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.6
2004	76.0	71.6	56.9	47.4	28.7	20.2	12.8	7.3	2004	80.8	76.3	61.4	51.6	32.5	23.5	15.4	8.7
2005	76.1	71.6	57.0	47.5	28.9	20.4	13.0	7.3	2005	81.0	76.4	61.6	51.8	32.7	23.7	15.6	8.8
2006	76.2	71.7	57.1	47.6	29.1	20.6	13.1	7.3	2006	81.2	76.6	61.8	52.0	32.8	23.9	15.7	8.9
2007	76.3	71.8	57.2	47.7	29.2	20.7	13.2	7.3	2007	81.2	76.6	61.8	52.0	32.9	24.0	15.7	8.9

Note: All figures are based on a three-year period, so that for instance 2003 represents 2002-2004. The population estimates used to calculate these life expectancies are the latest available at time of publication of the 2006-2008 interim life tables (21 October 2009). All figures are based on death registrations. A minor methodological change was introducted for the 2006 figures to ensure consistency with population estimates of the very elderly for England and Wales. The effect on calculated life expectancies is marginal.

Table 6.1 Deaths: age and sex

England and Wales

Numbers (thousands) and rates

Year and quarter	All ages	Age group												
		Under 1[1]	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 and over
Numbers (thousands)														
Males														
1976	300.1	4.88	0.88	0.68	0.64	1.66	1.66	3.24	5.93	20.4	52.0	98.7	80.3	29.0
1981	289.0	4.12	0.65	0.45	0.57	1.73	1.58	3.18	5.54	16.9	46.9	92.2	86.8	28.5
1986	287.9	3.72	0.57	0.33	0.38	1.43	1.75	3.10	5.77	14.4	43.6	84.4	96.2	32.2
1991	277.6	2.97	0.55	0.34	0.35	1.21	1.76	3.69	6.16	13.3	34.9	77.2	95.8	39.3
1996	268.7	2.27	0.44	0.24	0.29	0.93	1.41	4.06	5.84	13.6	30.1	71.0	90.7	47.8
1999	264.3	2.08	0.41	0.22	0.28	0.90	1.27	3.85	5.93	13.6	28.7	64.3	90.4	52.3
2000	255.5	1.89	0.34	0.22	0.28	0.87	1.22	3.76	6.05	13.4	27.9	60.6	87.1	51.9
2001	252.4	1.81	0.32	0.19	0.28	0.88	1.27	3.63	6.07	13.3	27.5	57.5	87.0	52.7
2002	254.4	1.83	0.33	0.20	0.29	0.91	1.31	3.67	6.26	13.0	27.8	56.6	88.5	53.7
2003	254.4	1.83	0.31	0.20	0.26	0.85	1.35	3.48	6.44	12.7	28.3	55.1	89.6	54.1
2004	245.2	1.81	0.30	0.17	0.25	0.83	1.26	3.28	6.36	12.4	27.1	52.7	87.4	51.3
2005	243.9	1.88	0.30	0.17	0.27	0.86	1.22	3.15	6.36	12.2	27.3	51.0	84.7	54.5
2006	240.9	1.86	0.29	0.19	0.26	0.84	1.21	3.13	6.32	12.3	27.6	48.9	81.9	56.2
2007	240.8	1.89	0.34	0.18	0.23	0.80	1.22	3.14	6.26	11.9	27.5	47.8	80.6	58.9
2008	243.0	1.92	0.28	0.18	0.19	0.78	1.26	3.09	6.42	12.3	27.1	47.9	79.8	61.9
2009[P]	238.1	1.86	0.25	0.15	0.20	0.78	1.12	2.97	6.47	12.0	26.6	46.7	77.1	61.9
Females														
1976	298.5	3.46	0.59	0.45	0.42	0.62	0.67	1.94	4.04	12.8	29.6	67.1	104.7	72.1
1981	288.9	2.90	0.53	0.30	0.37	0.65	0.64	1.82	3.74	10.5	27.2	62.8	103.6	73.9
1986	293.3	2.59	0.49	0.25	0.27	0.56	0.67	1.65	3.83	8.8	25.8	58.4	106.5	83.6
1991	292.5	2.19	0.44	0.25	0.22	0.46	0.64	1.73	3.70	8.4	21.3	54.2	103.3	95.7
1996	291.5	1.69	0.32	0.18	0.20	0.43	0.51	1.85	3.66	8.9	18.2	50.2	96.7	108.7
1999	291.8	1.55	0.30	0.17	0.22	0.39	0.47	1.67	3.79	9.0	18.0	45.1	93.9	117.2
2000	280.1	1.49	0.25	0.16	0.18	0.38	0.47	1.69	3.87	9.1	17.6	42.2	89.3	113.4
2001	277.9	1.43	0.27	0.19	0.18	0.38	0.47	1.59	3.77	8.9	17.6	40.5	88.8	113.9
2002	281.0	1.34	0.24	0.16	0.20	0.39	0.47	1.60	3.77	8.7	17.8	39.6	90.2	116.4
2003	284.7	1.48	0.28	0.16	0.21	0.37	0.49	1.64	3.88	8.6	18.0	39.0	92.7	118.0
2004	269.0	1.46	0.25	0.14	0.17	0.41	0.49	1.54	3.86	8.1	17.6	37.0	88.4	109.5
2005	269.1	1.37	0.22	0.13	0.19	0.38	0.48	1.48	3.81	8.2	17.8	35.9	86.3	112.9
2006	261.7	1.51	0.27	0.14	0.17	0.38	0.44	1.38	3.80	8.1	17.9	34.5	81.2	111.9
2007	263.3	1.46	0.24	0.12	0.19	0.36	0.45	1.36	3.79	8.1	18.2	33.9	79.4	115.8
2008	266.1	1.45	0.27	0.14	0.14	0.35	0.46	1.45	3.81	8.3	18.2	33.9	77.8	119.8
2009[P]	253.3	1.46	0.24	0.13	0.17	0.33	0.43	1.40	3.65	8.0	17.7	32.7	72.9	114.1
Rates (deaths per 1,000 population in each age group)														
Males														
1976	12.5	16.2	0.65	0.34	0.31	0.88	0.96	0.92	2.09	6.97	19.6	50.3	116.4	243.2
1981	12.0	12.6	0.53	0.27	0.29	0.82	0.83	0.89	1.83	6.11	17.7	45.6	105.2	226.5
1986	11.8	11.0	0.44	0.21	0.23	0.72	0.83	0.88	1.68	5.27	16.6	42.8	101.2	215.4
1991	11.2	8.3	0.40	0.21	0.23	0.72	0.89	0.94	1.76	4.56	13.9	38.1	93.1	205.6
1996	10.7	6.8	0.32	0.14	0.18	0.60	0.85	1.01	1.67	4.06	11.9	34.5	85.0	198.8
1999	10.4	6.5	0.31	0.12	0.16	0.56	0.83	0.99	1.60	3.99	10.9	31.6	79.9	194.4
2000	10.0	6.1	0.26	0.13	0.16	0.54	0.79	0.98	1.59	3.92	10.4	29.7	75.9	187.5
2001	9.9	5.9	0.25	0.11	0.16	0.53	0.80	0.97	1.56	3.89	10.0	28.0	74.0	186.4
2002	9.9	6.0	0.26	0.12	0.16	0.53	0.82	1.00	1.58	3.89	9.7	27.4	73.6	188.1
2003	9.8	5.7	0.25	0.12	0.15	0.49	0.82	0.97	1.61	3.82	9.6	26.4	72.9	191.1
2004	9.4	5.5	0.25	0.11	0.14	0.47	0.73	0.93	1.58	3.72	9.0	25.1	70.0	176.0
2005	9.3	5.7	0.24	0.10	0.16	0.48	0.69	0.89	1.56	3.61	8.9	24.1	67.4	172.1
2006	9.1	5.4	0.23	0.12	0.15	0.46	0.67	0.89	1.55	3.59	8.8	23.2	64.6	163.4
2007	9.1	5.3	0.26	0.12	0.13	0.43	0.65	0.89	1.54	3.42	8.7	22.5	62.8	161.0
2008	9.1	5.3	0.21	0.12	0.11	0.43	0.65	0.87	1.59	3.45	8.6	22.0	61.4	161.4
2009[2,P]	8.8	5.1	0.18	0.10	0.12	0.43	0.58	0.82	1.63	3.30	8.4	21.0	58.5	155.1

Notes: Figures represent the numbers of deaths registered in each year up to 1992 and the numbers of deaths occurring in each year from 1993 to 2005. From 2006 onwards figures relate to the numbers of deaths registered in each year.
Death rates for 2002 to 2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ from those published previously.

1 Rates per 1,000 live births.

2 Death rates for 2009 are based on the 2008-based population projections for 2009. Death rates for ages under 1 are calculated using 2009 live births.

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Table 6.1 continued **Deaths: age and sex**

England and Wales

Numbers (thousands) and rates

Year and quarter	All ages	Age group												
		Under 1[1]	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 and over
2007 March	10.0	5.3	0.28	0.12	0.14	0.47	0.65	0.92	1.55	3.68	9.2	24.4	69.9	184.3
June	8.8	5.8	0.26	0.12	0.14	0.44	0.65	0.90	1.50	3.39	8.6	22.1	60.7	152.3
Sept	8.2	5.1	0.22	0.09	0.13	0.40	0.61	0.88	1.49	3.18	8.1	20.7	57.1	140.5
Dec	9.3	5.2	0.28	0.13	0.12	0.43	0.69	0.88	1.61	3.45	9.0	22.8	63.6	167.3
2008 March	9.7	5.4	0.21	0.12	0.11	0.37	0.59	0.84	1.57	3.66	9.0	23.4	65.7	177.7
June	8.9	5.3	0.22	0.12	0.12	0.45	0.61	0.87	1.59	3.40	8.5	21.7	60.0	155.2
Sept	8.2	5.1	0.18	0.13	0.10	0.44	0.70	0.88	1.57	3.27	8.1	20.4	55.0	139.0
Dec	9.5	5.4	0.25	0.09	0.12	0.46	0.70	0.89	1.63	3.48	8.6	22.7	64.7	173.7
2009[2] March[P]	9.9	5.4	0.18	0.06	0.13	0.43	0.57	0.81	1.61	3.43	9.0	22.9	67.2	182.8
June[P]	8.4	5.3	0.18	0.10	0.10	0.41	0.55	0.79	1.58	3.12	8.2	20.4	55.6	144.4
Sept[P]	8.0	5.0	0.16	0.08	0.10	0.39	0.55	0.81	1.57	3.16	7.9	19.4	52.8	134.8
Dec[P]	9.0	4.8	0.20	0.14	0.15	0.50	0.64	0.87	1.74	3.48	8.5	21.4	58.6	158.8
Females														
1976	11.8	12.2	0.46	0.24	0.21	0.35	0.40	0.56	1.46	4.30	10.1	26.0	74.6	196.6
1981	11.3	9.4	0.46	0.19	0.19	0.32	0.35	0.52	1.26	3.80	9.5	24.1	66.2	178.2
1986	11.4	8.0	0.40	0.17	0.17	0.29	0.33	0.47	1.12	3.24	9.2	23.4	62.5	169.4
1991	11.2	6.4	0.33	0.16	0.15	0.29	0.33	0.44	1.05	2.87	8.2	21.8	58.7	161.6
1996	11.0	5.3	0.25	0.10	0.12	0.29	0.31	0.46	1.04	2.63	7.1	20.6	55.8	158.9
1999	11.0	5.1	0.24	0.10	0.13	0.25	0.31	0.43	1.01	2.61	6.7	19.2	53.4	162.6
2000	10.5	5.1	0.20	0.10	0.11	0.25	0.30	0.44	1.00	2.62	6.4	18.1	50.8	155.2
2001	10.4	4.9	0.22	0.12	0.11	0.24	0.30	0.42	0.96	2.57	6.3	17.4	50.1	155.0
2002	10.5	4.6	0.20	0.10	0.12	0.24	0.29	0.43	0.94	2.54	6.0	17.0	50.5	159.6
2003	10.6	4.9	0.24	0.10	0.12	0.22	0.30	0.45	0.96	2.52	5.9	16.7	51.3	165.7
2004	9.9	4.7	0.22	0.09	0.10	0.24	0.30	0.43	0.94	2.40	5.7	15.8	48.7	154.2
2005	9.9	4.3	0.19	0.09	0.12	0.22	0.28	0.42	0.92	2.39	5.6	15.3	48.1	152.2
2006	9.6	4.6	0.22	0.09	0.10	0.22	0.25	0.39	0.92	2.33	5.6	14.8	45.7	143.8
2007	9.6	4.3	0.19	0.08	0.12	0.21	0.25	0.39	0.92	2.27	5.6	14.5	44.9	143.6
2008	9.6	4.2	0.21	0.09	0.09	0.20	0.25	0.41	0.93	2.28	5.5	14.2	44.2	145.5
2009[2 P]	9.1	4.2	0.18	0.09	0.11	0.19	0.23	0.40	0.91	2.15	5.4	13.4	41.4	136.4
2007 March	10.9	4.5	0.24	0.07	0.12	0.27	0.27	0.38	0.97	2.31	5.9	16.3	51.7	166.9
June	9.2	4.6	0.21	0.10	0.13	0.18	0.22	0.44	0.86	2.31	5.5	14.1	42.8	135.6
Sept	8.5	4.1	0.14	0.06	0.11	0.18	0.28	0.36	0.87	2.22	5.2	12.9	39.9	124.3
Dec	9.8	4.2	0.16	0.10	0.12	0.20	0.25	0.38	0.96	2.25	5.7	14.7	45.4	147.9
2008 March	10.4	4.5	0.20	0.07	0.09	0.22	0.23	0.42	0.93	2.34	5.6	15.0	48.7	160.7
June	9.3	3.6	0.20	0.11	0.10	0.16	0.28	0.41	0.92	2.29	5.5	13.8	42.8	139.7
Sept	8.5	4.4	0.20	0.09	0.08	0.20	0.24	0.43	0.91	2.17	5.2	13.0	38.9	123.4
Dec	10.3	4.3	0.25	0.09	0.08	0.23	0.26	0.40	0.97	2.32	5.8	15.0	46.4	158.4
2009[2] March[P]	10.6	4.3	0.21	0.09	0.10	0.18	0.24	0.42	0.96	2.25	5.9	14.8	48.5	166.0
June[P]	8.5	4.4	0.17	0.09	0.07	0.19	0.20	0.39	0.85	2.08	5.2	12.9	39.2	124.9
Sept[P]	8.0	3.8	0.17	0.09	0.09	0.17	0.22	0.37	0.85	2.03	5.0	12.3	36.3	116.8
Dec[P]	9.3	4.4	0.20	0.09	0.16	0.23	0.26	0.40	0.97	2.25	5.5	13.7	41.9	138.4

See notes on first page of table

Table 6.2 Deaths: subnational

Government Office Regions of England

Rates

Year and quarter	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West
Total deaths (deaths per 1,000 population of all ages)									
1996	11.7	11.7	11.2	10.7	10.7	10.3	9.4	10.7	11.7
1997	11.6	11.6	11.1	10.5	10.6	10.2	9.0	10.6	11.7
1998	11.9	11.7	11.2	10.8	10.6	10.2	8.8	10.4	11.4
1999	11.6	11.5	10.9	10.7	10.7	10.3	8.7	10.5	11.6
2000	10.8	10.7	10.3	10.0	10.3	9.9	8.2	9.8	11.3
2001	11.1	11.0	10.4	10.1	10.2	9.9	7.9	9.9	11.0
2002	11.2	11.0	10.5	10.2	10.3	10.0	7.8	10.0	11.1
2003	11.3	11.0	10.5	10.3	10.5	9.9	7.9	9.9	11.2
2004	11.0	10.5	10.0	9.7	9.9	9.5	7.3	9.5	10.4
2005	10.8	10.4	9.9	9.7	9.9	9.5	7.1	9.4	10.4
2006	10.5	10.2	9.6	9.6	9.7	9.3	6.8	9.2	10.1
2007	10.4	10.3	9.7	9.4	9.7	9.1	6.6	9.1	10.2
2008	10.7	10.3	9.7	9.5	9.7	9.2	6.6	9.1	10.2
2009[p]	10.1	9.9	9.3	9.2	9.3	8.9	6.3	8.8	10.0
2007 March	11.9	11.7	10.9	10.6	11.0	10.2	7.4	10.0	11.5
June	9.9	9.9	9.5	9.1	9.4	8.8	6.5	8.8	9.8
Sept	9.4	9.2	8.7	8.5	8.5	8.3	6.0	8.2	9.2
Dec	10.7	10.4	10.0	9.7	9.8	9.4	6.7	9.5	10.5
2008 March	11.6	11.1	10.4	10.1	10.5	10.0	7.2	9.8	10.9
June	10.1	9.9	9.5	9.4	9.4	9.0	6.4	8.9	9.9
Sept	9.6	9.2	8.6	8.5	8.6	8.1	5.8	8.1	9.4
Dec	11.3	10.9	10.2	10.3	10.2	9.7	6.9	9.6	10.8
2009 March[p]	11.4	11.1	10.5	10.4	10.6	10.3	7.2	10.4	11.6
June[p]	9.7	9.3	8.8	8.9	8.7	8.4	6.0	8.3	9.4
Sept[p]	9.1	8.9	8.3	8.2	8.3	8.0	5.6	7.9	9.0
Dec[p]	10.3	10.2	9.7	9.5	9.4	9.1	6.5	8.9	10.0
Infant mortality (deaths under 1 year per 1,000 live births)									
1996	6.2	6.3	6.5	6.3	6.8	5.3	6.3	5.3	5.5
1997	5.8	6.7	6.5	5.7	7.0	4.8	5.8	5.0	5.8
1998	5.0	6.3	6.9	5.6	6.5	5.0	6.0	4.4	4.8
1999	5.6	6.5	6.3	6.0	6.9	4.6	6.0	4.8	4.7
2000	6.5	6.2	7.3	5.4	6.8	4.4	5.4	4.4	4.7
2001	5.4	5.8	5.5	4.9	6.4	4.5	6.1	4.2	5.4
2002	4.8	5.4	6.1	5.6	6.6	4.3	5.5	4.5	4.3
2003	4.9	5.9	5.7	5.9	7.4	4.5	5.4	4.2	4.1
2004	4.6	5.4	5.8	4.9	6.3	4.2	5.2	3.9	4.5
2005	4.7	5.6	6.0	4.8	6.6	4.0	5.2	3.9	4.5
2006	5.4	5.6	5.7	5.4	6.4	4.1	4.9	4.1	4.0
2007	4.7	5.0	5.7	5.3	5.9	4.3	4.5	3.9	4.2
2008	4.2	5.2	5.4	4.9	6.5	4.4	4.3	4.0	4.0
2009[p]	3.8	4.9	5.5	5.1	6.0	4.0	4.5	3.9	4.0
2007 March	5.1	5.1	4.5	5.3	6.4	4.2	4.5	3.9	4.4
June	4.5	5.5	7.2	6.5	6.1	3.9	5.1	4.3	3.9
Sept	4.0	4.3	5.2	5.1	5.5	4.7	4.7	3.9	4.1
Dec	5.3	5.2	5.7	4.3	5.7	4.4	4.0	3.5	4.2
2008 March	4.1	5.0	5.8	4.7	7.6	4.4	4.0	4.5	4.9
June	4.5	4.8	4.6	4.8	6.7	4.2	3.9	3.7	3.0
Sept	3.8	5.6	4.8	5.7	6.4	4.4	4.4	3.6	4.1
Dec	4.4	5.2	6.4	4.3	5.5	4.5	4.8	4.3	3.9
2009 March[p]	4.3	4.8	6.3	5.9	6.1	3.9	4.6	4.5	4.2
June[p]	3.8	5.5	4.8	5.3	7.0	3.7	4.7	3.8	4.7
Sept[p]	3.5	4.6	6.0	4.1	5.2	4.5	3.9	3.7	3.5
Dec[p]	3.7	4.7	5.0	5.2	5.8	4.1	4.8	3.5	3.6

Notes: Figures represent the numbers of deaths occurring in each year up to 2001. From 2002 onwards the figures have been revised and relate to the number of deaths registered in each year. The 2008 perinatal rates have been updated to include the late receipt of 14 stillbirth records.

Death rates for 2002 to 2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

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Table 6.2 continued **Deaths: subnational**

Government Office Regions of England — Rates

Year and quarter	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West
Neonatal mortality (deaths under 4 weeks per 1,000 live births)									
1996	4.1	4.0	4.2	4.2	4.9	3.5	4.4	3.5	3.8
1997	3.7	4.3	4.4	3.7	5.0	3.3	3.7	3.4	3.9
1998	3.1	4.1	4.5	3.7	4.8	3.4	4.1	2.9	3.3
1999	4.1	4.4	4.1	4.3	4.8	3.0	4.1	3.2	3.2
2000	4.4	4.3	5.0	4.1	5.0	3.0	3.7	3.1	3.0
2001	3.5	3.8	3.2	3.4	4.4	2.9	4.1	2.9	3.7
2002	3.2	3.6	4.0	4.0	4.8	2.9	3.6	2.9	3.1
2003	3.2	4.1	4.0	4.2	5.1	3.0	3.7	2.8	2.9
2004	2.8	3.6	3.8	3.5	4.7	2.9	3.6	2.8	3.2
2005	2.9	3.8	4.0	3.5	4.9	2.6	3.4	2.7	3.2
2006	3.8	3.8	4.0	4.0	4.6	2.9	3.4	2.8	2.9
2007	3.0	3.3	4.0	3.6	4.5	3.0	3.1	2.6	2.8
2008	3.2	3.5	3.3	3.5	4.6	3.0	2.8	2.8	2.8
2009[P]	2.8	3.3	3.7	3.5	4.3	3.0	3.1	2.5	2.5
2007 March	4.0	3.8	3.3	3.4	4.8	2.9	3.0	2.6	3.0
June	1.8	3.7	5.2	4.5	4.6	2.6	3.5	3.0	2.5
Sept	2.6	2.7	3.5	3.5	4.2	3.1	3.1	2.5	3.1
Dec	3.7	2.9	3.8	2.8	4.6	3.6	2.7	2.4	2.7
2008 March	3.2	3.3	4.0	3.6	5.8	3.0	2.7	2.9	3.1
June	2.9	3.4	2.7	3.3	4.3	2.7	2.6	2.7	2.4
Sept	3.1	3.6	3.1	4.1	4.8	2.9	2.9	2.6	2.8
Dec	3.6	3.6	3.6	3.0	3.5	3.3	3.1	3.0	2.9
2009 March[P]	2.7	3.0	4.0	4.0	4.5	3.0	3.0	2.8	2.5
June[P]	3.0	3.7	3.5	3.9	4.5	2.8	2.9	2.2	3.0
Sept[P]	2.3	3.4	4.1	2.8	4.3	3.1	2.8	2.8	2.1
Dec[P]	3.1	3.2	3.3	3.2	4.1	3.0	3.6	2.2	2.4
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)									
1996	9.2	8.6	8.3	8.7	10.2	7.5	9.6	7.8	7.5
1997	8.0	8.9	8.3	7.7	9.6	7.3	9.0	7.3	8.7
1998	8.2	8.7	9.2	8.0	9.3	7.4	9.0	6.8	7.3
1999	8.2	8.7	8.3	7.8	9.9	7.0	9.0	6.9	7.8
2000	8.5	8.6	9.6	7.8	9.6	7.1	9.0	6.6	6.6
2001	7.8	8.7	7.5	7.9	9.1	7.1	8.9	6.9	7.2
2002	8.1	8.5	9.0	8.5	10.0	7.5	9.3	6.9	6.8
2003	7.8	9.0	9.1	9.5	10.2	7.3	9.6	7.0	7.0
2004	7.9	8.4	9.4	8.1	9.6	7.6	9.3	7.0	7.2
2005	7.8	8.2	9.4	7.6	9.9	6.4	8.5	6.8	6.8
2006	8.0	8.3	8.5	8.4	9.2	6.7	8.8	7.0	6.6
2007	7.2	7.9	8.8	7.3	9.1	7.0	8.4	6.7	6.4
2008	8.1	7.8	7.9	7.4	9.3	6.5	7.8	6.7	6.6
2009[P]	6.9	7.6	8.2	8.4	9.1	7.2	7.7	6.5	6.7
2007 March	7.5	8.5	7.8	6.8	9.5	7.6	8.5	6.8	6.8
June	6.8	7.4	9.2	8.6	9.8	6.7	9.1	7.1	6.5
Sept	7.4	7.3	8.9	7.1	7.8	7.0	8.6	6.1	6.4
Dec	7.2	8.5	9.1	6.7	9.5	6.8	7.6	6.7	6.1
2008 March	6.7	8.2	9.3	7.8	11.5	6.1	7.7	6.7	6.4
June	7.4	8.0	7.7	7.5	9.4	6.5	7.7	6.6	6.3
Sept	8.3	8.1	6.9	6.8	8.3	6.4	7.4	5.9	7.3
Dec	10.1	6.8	7.9	7.7	8.1	6.9	8.6	7.6	6.5
2009 March[P]	6.5	7.8	8.3	9.8	9.3	7.6	8.0	6.8	6.9
June[P]	7.2	7.7	7.6	8.3	9.9	7.1	7.3	6.6	7.2
Sept[P]	5.4	7.8	9.3	7.6	8.3	7.6	7.7	6.4	6.3
Dec[P]	8.3	6.9	7.4	7.9	8.9	6.7	8.0	6.3	6.3

See notes on first page of table

Table 6.3 **Deaths: selected causes (International Classification)[1] and sex**

England and Wales

Numbers (thousands) and rate for all deaths and age-standardised rates per million population for selected causes

Year and quarter	All deaths		All causes (age - standardised per million population[2])	Malignant neoplasms									
	Number (thousands)	Crude rate per 100,000 population		Oesophagus	Stomach	Colon	Rectosigmoid junction, rectum, and anus	Trachea, bronchus and lung	Melanoma of skin	Other malignant neoplasms of skin	Breast	Cervix uteri	Ovary
			A00-R99 V01-Y89	(C15)	(C16)	(C18)	(C19-C21)	(C33-C34)	(C43)	(C44)	(C50)	(C53)	(C56)
Males													
1971	288.4	1,207	13,466	76	317	187	144	1,066	10	12	4	:	:
1981	289.0	1,196	12,189	90	251	181	135	1,028	17	9	3	:	:
1991	277.6	1,125	10,291	117	185	194	117	842	23	10	3	:	:
1998	264.7	1,064	8,981	129	132	169	95	643	26	8	3	:	:
1999	264.3	1,044	8,862	127	127	161	90	611	27	7	2	:	:
2000	255.5	1,005	8,437	128	118	158	89	592	28	7	2	:	:
2001	252.4	987	8,188	129	111	155	89	570	26	7	3	:	:
2002	254.4	990	8,126	131	110	151	91	561	27	8	3	:	:
2003	254.4	985	8,025	134	102	146	90	538	28	8	2	:	:
2004	245.2	943	7,595	129	95	142	92	522	30	9	2	:	:
2005	243.9	931	7,380	132	93	138	92	513	28	8	2	:	:
2006	240.9	913	7,123	131	83	132	90	509	31	7	2	:	:
2007	240.8	906	6,948	128	82	128	88	498	31	8	3	:	:
2008	243.0	907	6,852	131	78	129	90	495	31	7	2	:	:
2009[3,P]	238.1	882	6579	130	76	125	86	481	32	7	2	:	:
2007 March	65.4	998	7,615	126	88	132	86	522	33	7	2	:	:
June	58.2	879	6,755	130	84	122	86	493	31	8	3	:	:
Sept	55.2	824	6,339	128	80	126	87	470	29	7	3	:	:
Dec	62.0	926	7,095	129	78	132	94	509	31	9	3	:	:
2008 March	64.6	969	7,295	136	80	132	88	509	29	5	1	:	:
June	59.1	887	6,715	126	77	130	90	478	33	8	2	:	:
Sept	55.4	823	6,257	126	79	129	92	484	30	8	2	:	:
Dec	63.9	950	7,145	135	78	126	91	510	33	6	1	:	:
2009[3] March[P]	65.9	990	7,317	129	71	131	84	481	28	7	2	:	:
June[P]	56.6	841	6,288	134	77	123	87	488	33	7	2	:	:
Sept[P]	54.5	801	6,009	130	78	120	81	469	33	8	3	:	:
Dec[P]	61.1	898	6,716	127	78	125	92	487	33	8	2	:	:
Females													
1971	278.9	1,104	8,189	40	149	176	79	183	14	6	379	83	126
1981	288.9	1,134	7,425	42	111	157	74	252	16	5	405	69	121
1991	292.5	1,122	6,410	50	74	146	61	300	18	4	401	54	118
1998	290.3	1,108	5,945	49	54	117	47	291	21	3	328	35	116
1999	291.8	1,097	5,929	52	51	115	46	289	20	3	319	33	111
2000	280.1	1,049	5,655	51	48	107	45	285	21	3	311	33	109
2001	277.9	1,038	5,543	48	46	103	45	283	20	3	308	31	112
2002	281.0	1,046	5,539	51	44	103	44	285	19	3	302	29	112
2003	284.7	1,056	5,584	50	42	98	46	285	20	3	293	27	108
2004	269.0	994	5,277	48	42	96	47	284	19	3	285	27	102
2005	269.1	988	5,188	48	39	96	45	289	20	3	282	26	102
2006	261.7	956	4,988	48	35	93	46	300	19	4	277	24	99
2007	263.3	957	4,920	47	35	92	48	300	21	4	267	24	96
2008	266.1	961	4,897	47	35	90	48	307	22	3	263	23	93
2009[3,P]	253.3	910	4633	45	32	85	47	299	21	3	254	23	92
2007 March	74.0	1,091	5,522	50	35	92	49	314	22	4	284	25	95
June	62.8	916	4,756	48	31	88	45	296	22	4	267	22	97
Sept	58.8	847	4,407	40	37	91	47	285	21	3	251	22	96
Dec	67.7	976	5,006	51	37	96	49	305	20	4	268	25	94
2008 March	71.8	1,044	5,246	50	36	86	47	302	20	3	269	24	93
June	64.0	930	4,758	46	36	86	47	298	21	3	259	23	91
Sept	58.9	846	4,398	43	34	94	45	299	23	3	254	24	92
Dec	71.4	1,026	5,188	48	33	93	50	329	24	2	268	23	96
2009[3] March[P]	73.0	1,064	5,292	45	32	88	49	301	19	3	267	23	91
June[P]	59.1	852	4,377	45	32	82	46	294	19	2	253	23	90
Sept[P]	56.2	801	4,142	45	31	82	45	289	20	3	241	23	90
Dec[P]	65.0	926	4,733	45	33	86	47	311	25	4	255	22	95

Notes: Figures represent the number of deaths registered in each year up to 1992 and the number of deaths occurring in each year from 1993 to 2001.
The number of deaths for 2002 onwards relate to registrations.
The rates by cause of death in this table are based on final underlying cause. For further details see the Explanatory Notes in the 'Report: Death registrations in England and Wales, 2004: causes' in HSQ26.
Death rates for 2002 to 2008 have been updated using revised mid-2002 to mid- 2008 population estimates which were published on 13 May 2010. Consequently, some figures may differ slightly from those published previously.

Table 6.3 continued **Deaths: selected causes (International Classification)[1] and sex**

England and Wales

Numbers (thousands) and rate for all deaths and age-standardised rates per million population for selected causes

Malignant neoplasms													
Prostate	Bladder	Leukaemia	Diabetes mellitus	Ischaemic heart disease	Cerebro vascular diseases	Pneumonia	Bronchitis, emphysema and other chronic obstructive pulmonary disease	Asthma	Gastric and duodenal ulcer	Diseases of the liver	Land transport accidents	Intentional self-harm and events of undetermined intent with inquest verdict 'Open'	Year and quarter
(C61)	(C67)	(C91-C95)	(E10-E14)	(I20-I25)	(I60-I69)	(J12-J18)	(J40-J44)	(J45-J46)	(K25-K27)	(K70-K76)	(V01-V89)	(X60-X84, Y10-Y34)	
													Males
198	124	74	82	3,801	1,541	920	944	21	107	41	209	124	1971
214	121	74	82	3,664	1,141	1,053	683	28	90	58	119	151	1981
304	121	77	131	2,984	940	391	606	31	73	76	125	160	1991
277	99	67	94	2,215	706	720	463	18	60	115	86	152	1998
272	93	67	94	2,095	673	770	474	18	64	119	86	151	1999
260	92	67	88	1,959	622	735	416	17	59	119	86	141	2000
274	93	70	94	1,872	690	388	403	16	55	139	86	134	2001
272	90	68	91	1,792	692	389	398	16	56	145	93	134	2002
273	88	72	91	1,703	663	407	410	14	53	156	91	134	2003
267	85	67	83	1,570	596	361	366	15	50	152	85	133	2004
256	80	67	78	1,467	553	353	368	12	46	155	85	128	2005
250	81	68	74	1,353	520	320	343	10	45	161	83	123	2006
247	81	66	71	1,280	481	303	337	11	39	162	79	119	2007
240	79	65	73	1,211	467	301	346	10	40	164	70	125	2008
240	79	64	66	1131	432	284	320	10	37	157	61	127	2009[3,P]
252	83	66	77	1,441	541	395	433	11	44	178	84	115	2007 March
246	80	69	65	1,249	465	286	311	11	36	154	77	121	June
233	78	61	65	1,146	429	226	265	9	35	152	73	116	Sept
257	82	69	75	1,287	489	306	338	11	40	167	82	125	Dec
239	75	64	75	1,325	514	362	413	11	48	164	68	108	2008 March
228	78	65	73	1,196	453	284	321	8	39	161	72	121	June
238	76	61	69	1,071	409	225	260	8	34	162	70	137	Sept
253	86	68	75	1,253	495	335	392	12	39	169	70	135	Dec
246	81	69	72	1,319	517	408	428	11	41	156	64	119	2009[3] March[P]
238	78	59	63	1,072	401	248	287	9	37	149	58	125	June[P]
235	76	64	59	1,006	382	203	250	8	35	155	57	125	Sept[P]
240	82	64	70	1,132	430	278	316	11	35	169	63	138	Dec[P]
													Females
:	32	47	89	1,668	1,352	624	193	25	44	31	82	84	1971
:	35	47	66	1,601	1,012	740	155	30	57	43	41	81	1981
:	34	44	95	1,407	812	325	211	30	46	49	45	51	1991
:	32	41	65	1,055	645	546	226	22	41	64	28	43	1998
:	30	45	65	986	629	591	241	22	39	67	28	45	1999
:	31	39	62	907	577	546	216	20	41	68	24	45	2000
:	29	41	62	878	620	307	220	19	39	77	23	40	2001
:	30	43	65	845	618	318	225	20	37	79	25	42	2002
:	30	39	66	813	606	336	243	19	36	80	28	42	2003
:	28	40	60	737	551	297	214	18	35	83	25	44	2004
:	28	39	56	686	518	297	224	17	32	81	23	43	2005
:	29	36	54	629	478	261	213	16	29	87	24	39	2006
:	27	38	53	592	454	251	218	14	26	87	23	35	2007
:	27	37	51	561	442	255	226	15	27	86	21	38	2008
:	27	37	49	504	407	228	206	13	24	83	17	38	2009[3,P]
:	29	40	58	689	517	353	298	18	28	96	23	33	2007 March
:	29	36	49	569	439	228	204	14	27	85	27	31	June
:	24	34	50	520	399	178	156	12	24	80	22	35	Sept
:	26	41	56	591	464	249	217	14	26	86	20	39	Dec
:	29	36	54	612	485	319	263	17	28	91	21	33	2008 March
:	27	36	51	547	431	236	206	14	26	85	22	39	June
:	25	36	46	498	380	170	159	11	27	78	24	40	Sept
:	27	37	53	590	472	295	275	17	27	92	18	40	Dec
:	27	34	58	577	483	347	289	18	28	86	17	36	2009[3] March[P]
:	28	35	45	490	378	189	180	12	21	82	16	37	June[P]
:	27	39	46	448	349	160	147	9	22	76	15	39	Sept[P]
:	26	39	47	504	421	220	209	13	25	88	19	38	Dec[P]

1 The Ninth Revision of the International Classification of Diseases, 1975, came into operation in England and Wales on 1 January 1979.TheTenth Revision of the International Classification of Diseases, 1992, came into operation in England and Wales on 1 January 2001. The cause descriptions and codes relate to ICD-10. For changes to this table see 'In Brief', Health Statistics Quarterly 14.

2 Directly age-standardised to the European Standard Population. See Notes to Tables.

3 Death rates for 2009 are provisional and based on the 2008-based population projections for 2009.

p provisional

Health Statistics Quarterly

A quarterly publication containing feature analysis and commentary about topical population and demography related issues affecting the UK, together with related news items and key statistics on population, conceptions, births and deaths.

ISSN: 1465-1645

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Printed in Great Britain by Latimer Trend & Company Ltd, Plymouth

Published by Palgrave Macmillan, an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS

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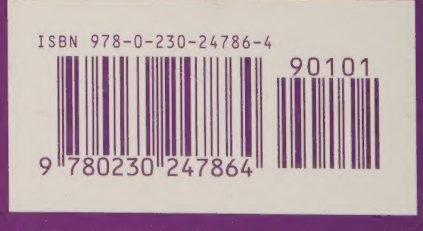

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